

# Manufacturers Record

## Exponent of America



\$6.50 per Year.  
Single Copy, 20 Cents.

Baltimore, Md.  
DECEMBER 21, 1922

### CHRISTMAS 1922.

**GLORY TO GOD IN THE HIGHEST AND ON EARTH PEACE TO MEN OF GOOD WILL.** Nineteen hundred years ago the Angelic Choir sang the Divinest song ever heard by mortals. All Heaven must have rung with the music which caught the ears of the shepherds of Judea as they guarded their flocks by night.

Ever since that hour which heralded the most amazing event in human history, and for aught we know, the most amazing in all the annals of Heaven, when the Creator of the universe clothed Himself in the habiliments of mortality that He might win to Himself the love of sin-cursed mankind, that song has filled with unspeakable joy millions and hundreds of millions of human hearts.

For the joy that has come to them in the realization of their at-one-ment with God through the atonement of the Cross, men and women have gladly died at the stake or sang with joy as they were torn unto death by the wild beasts of ancient arenas, or they have gone with glory in their hearts into the wilds of Africa and to the isles of the sea, and into other heathen lands where persecution and death awaited them in order to testify to the power of Divine forgiveness.

Into the deadly camps of the lepers, into the fever infested regions of tropical jungles, into the bitter ice bound regions of Greenland, and wherever humanity needed help, they have gone in the name of Him whose birth we are now preparing to celebrate. In His name hospitals have been built and the maimed, the halt, the blind, the suffering have been helped.

This season will be largely given throughout all Christendom to good works, to kindly deeds for young and old, for the infant in arms, and for the aged, tottering toward the end of this earthly life. And the One whose birthday we celebrate, the God before whom we shall all appear in the last great Judgment Day, Christ, the Creator of the world and the Savior of mankind, says today as He said nineteen centuries ago:

"Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

\* \* \*

"Inasmuch as ye did it not to one of the least of these, ye did it not to me."



# TENNESSEE COAL, IRON & RAILROAD CO.

## LIGHT RAILS

30 to 48-lb. per yard

**Rolled from New Open Hearth Steel Billets**

**Complete Fastenings Furnished With Rails**

**General Offices: Brown-Marx Building, Birmingham, Alabama**

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Chicago

Cincinnati

Cleveland

Denver

Detroit

New Orleans

New York

Philadelphia

Pittsburgh

St. Louis

St. Paul

Pacific Coast Representative: United States Steel Products Co., San Francisco, Seattle, Portland, Los Angeles

Export Representatives: United States Steel Products Co., New York City.





## SONNEBORN PRODUCTS

# They Can Save Money For You

Sonneborn chemists are saving untold thousands of dollars by creating these protective materials for every part of your plant. These materials have been used for many years and have become standard in their several lines.

## LAPIDOLITH

TRADE MARK

The Liquid Chemical Which Makes Concrete  
Floors Dustproof and Wearproof

Lapidolith has been the acknowledged standard for twelve years. Over a quarter billion square feet of old and new concrete floors successfully treated thus far. There are lapidolized floors everywhere and we will refer you to one near you.

Write for hardened concrete block, testimonials from every line and full literature.

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The Industrial Enamel Paint Which Stays White Longer

Cemcoat will save you the expense of frequent re-painting, for it resists the tendency to turn yellow and does not crack, dust or peel. Two coats do the work of three coats of ordinary mill whites.

Write for a free sample and the names of users near you. After investigation you will surely use Cemcoat. We guarantee satisfaction.

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FOR USE ON ANY ROOF IN ANY WEATHER

The National Roof Protector Which Makes Roofs Leakproof  
and Keeps Them Leakproof For Years

Stormtight is brushed on like roof paint, but it forms a covering ten times as thick as paint. It does not dry out like paint but remains rubberlike and so lasts for years and saves you the cost of the annual painting bills.

Buy of your dealer or send us his name.

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FOR WOODEN FLOORS

The modern wood preservative gives new life to old or new wooden floors.

### Technical Paints

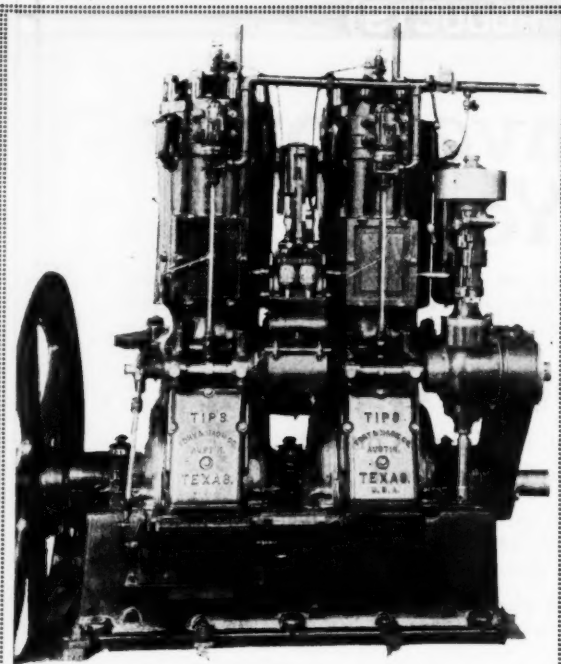
Special paints of every description for special purposes.

Save Your Property—Investigate—Write Today.

**L. SONNEBORN SONS, INC.**

Dept. 23, 116 Fifth Avenue New York

SONNEBORN



### TIPS SEMI-DIESEL OIL ENGINES

Sizes 35 to 165 H. P.

Full Chrome Vanadium Crankshafts are just another evidence of Tips honest engine construction.

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### Manufacturers of



Dry Pans, (3 sizes).  
Wet Pans, (3 sizes).  
Sewer Pipe Presses, (4 sizes).  
Gravity Elevators.  
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Feeders.  
Conveyors.  
Potters Machinery.  
Oat Cutters and Hullers.  
Rubber Core and Mold Work.

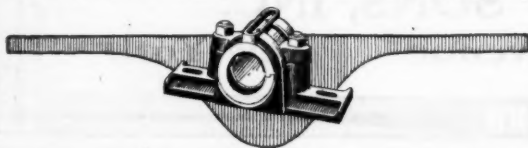
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THE Caldwell line is complete. Bearings—heavy, properly designed, and well finished. Pulleys of ample weight and accurately turned. The entire line has achieved outstanding recognition under hard service. Let us figure on your requirements.

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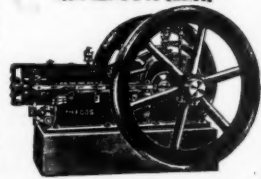


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### A RUN FOR YOUR MONEY

All fuels 6 to 325 HP

It is a common thing to find a FOOS faithfully on the job delivering its full power rating after more than 20 years of continuous operation. We have record of many such installations. The highest quality materials obtainable plus master workmanship and 35 years' engineering experience, insures a good run for your money.



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SINGLE VALVE, POPPET VALVE UNIFLOW, AND NON-RELEASING CORLISS ENGINES FOR YOUR POWER PLANT.

Built in sizes 100 to 1600 H.P. for rope drives, belting, or direct connection to saw mills, blowers, mine fans, generating units, air and ammonia compressors.

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Geo. B. Weaver—719 Brown-Marx Bldg.,  
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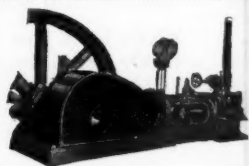
**Chuse Engine & Mfg. Co., Mattoon, Ill.**

### THE VILTER MFG. CO.

832 Clinton St.  
MILWAUKEE, WIS.

### Corliss Engines

Ice and Refrigerating  
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### ALLIS-CHALMERS MFG. CO.

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DESIGNERS AND BUILDERS OF

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If you are in the market for the above, get our prices. We are Southern Manufacturers, and not only manufacture, but guarantee our products. We want you to take advantage of our 50 years' experience.

Write us for further information  
and become a satisfied customer.

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1. Complete combustion.
2. Absolute control of CO<sub>2</sub>.
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Horizontal Water Tube, Economic Return Tubular,  
Return Tubular Stationary Boilers Lentz Engines.

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A necessity for turbine protection, engine cylinder economy and utilization of superheat for all its benefits.

**POWER SPECIALTY COMPANY** Boston, Philadelphia, Pittsburgh, Kansas City,  
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#### FAMOUS EMPIRE GAS COAL

Analysis Empire Coal	
Moisture .....	1.45 %
Volatile Matter ..	36.57 %
Fixed Carbon .....	59.83 %
Ash .....	2.35 %
Sulphur .....	100.00 %
B. T. U. ....	14,986 %

#### THE EMPIRE COAL COMPANY

711-717 American Trust Building  
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#### BOILERS - FLUES - REPAIRS CONTRACTORS AND MILL CASTING

Capacity Boring Mill up to 20 ft.  
Lathes up to 62 in. x 25 ft.  
100 Large and Small Machines and Men for New and Repair Work.

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#### HIGH-GRADE 72 HOUR FOUNDRY COKE

#### WASHED and SIZED BLACKSMITH COAL

Mines and Ovens at Yolande, Ala.

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Rubber Belts { "Marco" Friction Surface  
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"Clipper" Lacers Coupes Lacing

Hercules Red Strand Wire Rope

Catalogs on Request

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CHARLESTON, S. C.





*That he who buys  
may know—*

We stamp the Jenkins "Diamond" and Signature on every valve we make—  
as an evidence of our pride in workmanship  
as a protection to the buyer against substitution  
as an assurance to the buyer that he is getting genuine Jenkins Valves and genuine Jenkins Service.

If these things are worth while—look for the Diamond and Signature!

**AT SUPPLY HOUSES EVERYWHERE**

**JENKINS BROS.**  
New York      Boston      Philadelphia      Chicago  
Montreal      London

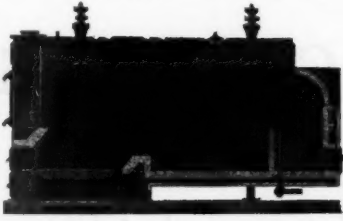
FACTORIES: Bridgeport, Conn.;  
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**Jenkins Valves**  
SINCE 1864

## BOILERS

WITH OR WITHOUT STEEL CASINGS



WE ALSO  
BUILD  
**ENGINES**  
AND  
**HEATERS**

THE HOUSTON, STANWOOD & GAMBLE CO.  
CINCINNATI

LONGITUDINAL AND  
CROSS-DRUM TYPES  
WASTE HEAT BOILERS  
ALL CONFORM TO ASME CODE



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*Heine Boiler Company*  
SAINT LOUIS, U.S.A.  
BOILER MANUFACTURERS FOR 40 YEARS

### The Morgan Producer Gas Machine

is the highest class gas producer built in the U. S. and is advertised in this journal the first issue of each month.

**Morgan Construction Co., Worcester, Mass.**  
Pittsburgh Office: 610 Magee Building      Telephone Court 1981

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Successors to VALE & MURDOCH CO.


**MARINE AND STATIONARY BOILERS**  
Repairs to Steel and Wooden Vessels  
8,000-ton Dry Dock - 1,500 and 800-ton Marine Railways  
CHARLESTON, S. C.

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RADIAL BRICK AND REINFORCED CONCRETE  
REFRACTORY BRICKWORK

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(Especially The White Star Valve)


**THE W. M. POWELL CO.**  
DEPENDABLE ENGINEERING SPECIALTIES  
CINCINNATI

## THE BABCOCK & WILCOX COMPANY

85 LIBERTY STREET, NEW YORK

**Builders since 1868 of  
Water Tube Boilers  
of continuing reliability**

**Makers of Steam Superheaters  
since 1898 and of Chain Grate  
Stokers since 1893**



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CLEVELAND, Guardian Building  
CHICAGO, Marquette Building  
CINCINNATI, Traction Building  
ATLANTA, Candler Building  
TUCSON, ARIZ., 21 So. Stone Avenue  
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**BRANCH OFFICES**  
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DENVER, 435 Seventeenth Street  
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SEATTLE, L. C. Smith Building  
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SAN JUAN, PORTO RICO, Royal Bank Building



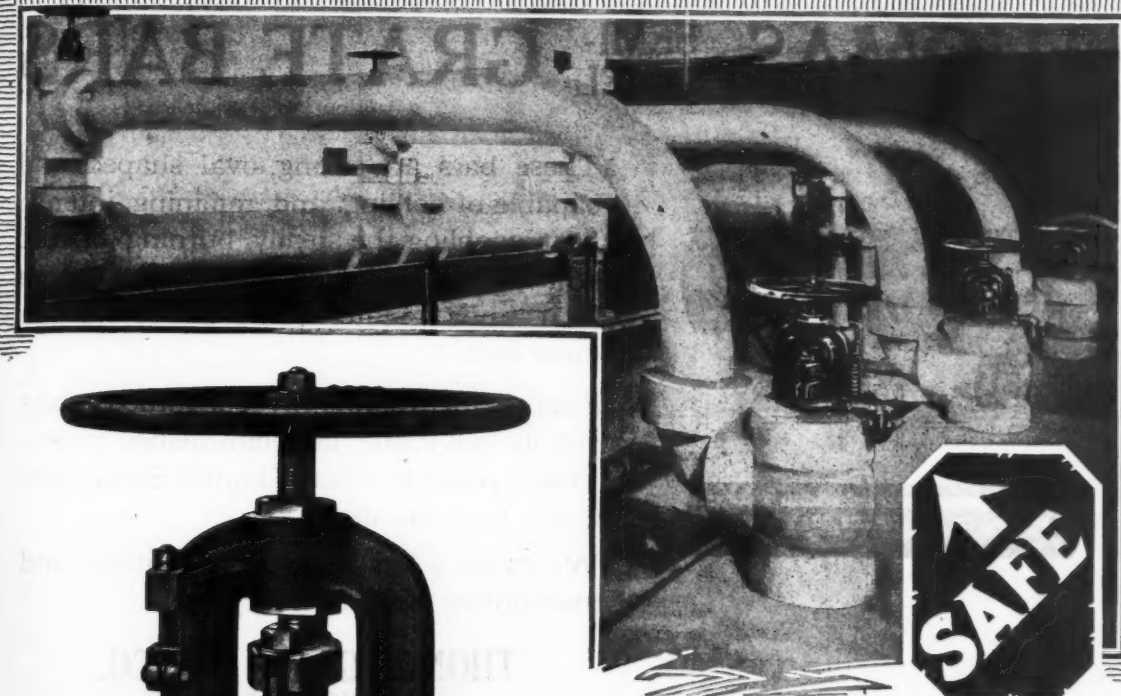


Fig. 700

*"Essential for the safe operation of boilers connected in battery"*

10-19-62

## LUNKENHEIMER

### *Safety*

### *Non-Return Valves*

are safety devices of established merit, providing positive protection to the operatives as well as the plant itself, against the dangers incident to an internal accident to one of the boilers of a battery.

A sudden drop in pressure within the boiler will cause the Lunkenheim Non-Return Safety Boiler Stop Valve to close instantly and it will not reopen until the pressure within the boiler is raised to that in the header as these valves cannot be opened by hand. They likewise safeguard the lives of workmen who enter a dead boiler, should the regular stop valve fail or be opened through carelessness.

Lunkenheim construction provides extreme factors of safety—vital to the severe service these valves perform; minute adjustment to meet individual operating conditions and durability far beyond the average.

Iron Body Bronze Mounted and Cast Steel Monel Mounted for all pressure and temperature conditions.

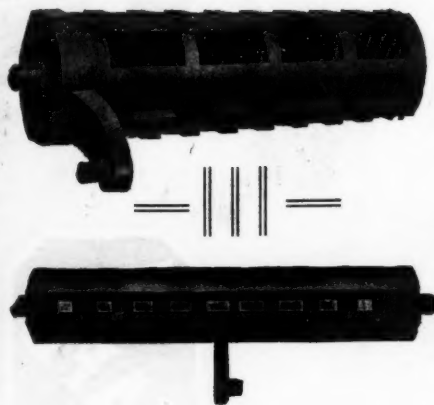
*"America's Best since 1862"*

**THE LUNKENHEIMER CO.**  
"QUALITY"

LARGEST MANUFACTURERS OF  
HIGH GRADE ENGINEERING SPECIALTIES  
IN THE WORLD

NEW YORK CHICAGO CI·CINNATI, U.S.A. BOSTON LONDON  
Export Dept- 129-135 Lafayette St., New York

# THOMAS SEMI-STEEL GRATE BARS



These bars are strong, oval shaped and capable of holding and retaining intense heat, enabling the steady burning of fuel which means better combustion, more heat units, greater boiler power for the same cost.

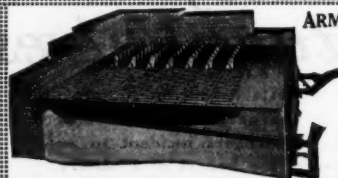
Fuel being thoroughly consumed gives out its full value and diminishes waste. This is possible when Thomas Semi-Steel Grate Bars are used.

We make a bar for every condition; and manipulate them for every fuel.

## THOMAS GRATE BAR CO. BIRMINGHAM, ALA.

CHICAGO, ILL.  
CLEVELAND, OHIO,  
NEW YORK,  
NEW ORLEANS,

Railway Exchange Bldg.  
Hippodrome Bldg.  
2 Rector Street  
315 Board of Trade Bldg.



### ARMSTRONG INTERLOCKING SHAKING GRATES

cut fuel costs from ten  
to forty per cent.  
—Prove it—  
your plant—our expense  
Armstrong Mfg. Company  
W. Liberty Street  
Springfield, Ohio

### WE-FU-GO AND SCAIFE

## WATER

PURIFICATION SYSTEMS  
SOFTENING & FILTRATION  
FOR BOILER FEED AND  
ALL INDUSTRIAL USES

WM. B. SCAIFE & SONS CO. PITTSBURGH, PA.

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FLOUR AND CORN MILL MACHINERY  
EFFICIENCY ECONOMY DURABILITY  
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SALEM FOUNDRY AND MACHINE WORKS, INC.  
SALEM - VA.

### WATER SOFTENING AND FILTRATION PLANTS INTERNATIONAL FILTER CO.

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New York Office: Woolworth Bldg.

### GRAVITY FILTERS PRESSURE

### WATER SOFTENING PLANTS AND HYPOCHLORITE APPARATUS

ALL VARIETIES OF  
CHEMICAL FEEDING DEVICES

Write for Bulletin 22-3

The New York Continental Jewell Filtration Co.  
NUTLEY, N. J.

Member Associated Manufacturers of Water Purifying Equipment

### ROBERTS FILTERS FOR CLEAN WATER

Ideally adapted for installation in textile mills; raw water ice plants; laundries, and for all industrial or municipal requirements.

"Write for Descriptive Literature."

Roberts Filter Manufacturing Co.

DARBY (PHILA.) PENNA.

NEW YORK OFFICE—FLATIRON BUILDING.

## DEPENDABLE FIRE BRICK

"HYTEST" "STEVENS" "VULCAN"  
STEVENS BROS. & CO.  
ATLANTA

FIRE BRICK  
"A A A"

FIRE CLAY  
"B B B"

"SERVICE CROWN"

Write for samples and prices  
CANNELTON CLAY PRODUCTS CO.  
Office and Factory  
CANNELTON, INDIANA, U. S. A.

DAILY CAPACITY 150,000  
**A. D. Green**  
**Fire Brick**  
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**WALSH** FIRE BRICK  
AND SHAPES  
WALSH FIRE CLAY PRODUCTS CO.  
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## "Mount Savage" Fire Brick

UNION MINING COMPANY  
Plant: Mount Savage, Md. Gen'l Office: Baltimore, Md.

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ANNISTON REFRACTORIES CO.  
MANUFACTURERS OF  
SILICA AND HIGH GRADE FIRE BRICK  
PREPARED FIRE CLAY A SPECIALTY  
OXFORD, ALA.  
WHEN BETTER BRICK ARE MADE "TEAL" WILL MAKE THEM



**-PLIBRICO-**  
FOR BOILER SETTINGS AND BAFFLES  
BETTER THAN FIRE-BRICK  
Can Be Installed By Inexperienced Labor  
Will Withstand 3100 Deg. Temperature -  
Shipped in Steel Containers only  
JOINTLESS FIRE BRICK CO  
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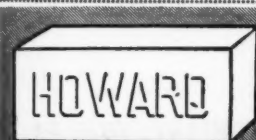
**THE OHIO REFRACTORIES CO.**  
IRONTON, OHIO  
HIGH GRADE  
FIRE BRICK  
GROUND  
FIRE CLAY

## HAND FIRE BRICK MADE

Made from the famous Olive Hill, Kentucky flint and semi-flint clays. They are hand made throughout.

BRANDS

Ironton "Steel" and Ironton "Peerless"  
THE IRONTON FIRE BRICK COMPANY  
General Office & Works IRONTON, OHIO  
Mines BRADMYER, CARTER CO., KY.



FIRE BRICK  
FIRE CLAY  
SPECIAL SHAPES  
HOWARD REFRACTORIES CO.  
DORRIS, MD.  
WRITE FOR PRICES

**Marine "VITA" Glue**  
Sets and stays in seams. Has tenacity and vitality  
For samples and prices write to  
**BINNEY & SMITH COMPANY**  
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## THE CAMBRIA CLAY PRODUCTS CO.

MANUFACTURERS

SEWER PIPE - FLUE LINING - WALL COPING  
FACE BRICK - FIRE BRICK - FIRE CLAY  
HOLLOW BUILDING TILE

Office and Works - BLACKFORK, OHIO

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WRITE FOR CATALOGUE

ECO CLOCK COMPANY

111 Congress Street

BOSTON, MASS.

**AVOID ACCIDENTS AND FIRES**  
by installing the

NEWMAN GRILLE  
MODEL WATCHMAN'S CLOCK  
in your plant.

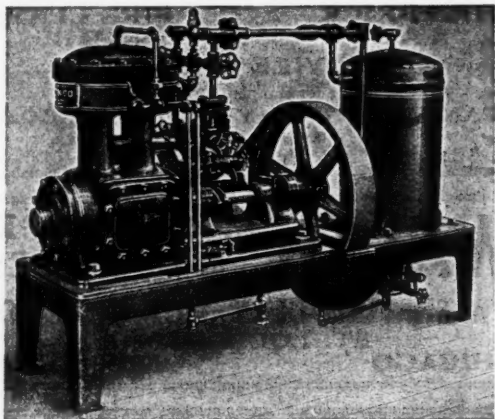
Inexpensive to install—simple in construction—effective in operation; tamper-proof. An undisputable record is turned in each morning showing the watchman's patrol on the previous night.



**Newman Clock Co., Inc.**  
Founded in 1872

435 Broadway, NEW YORK 579 W. Washington Blvd CHICAGO  
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## FRICK COMBINED REFRIGERATING MACHINE

A simple and efficient small refrigerating plant built in one-ton and two-ton sizes. Portable. No foundation required. Ask our nearest distributor for further details and prices.

**Frick Company**  
WAYNESBORO, PA. U.S.A.  
ICE MACHINERY SUPERIOR SINCE 1885

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We are now showing the largest line of **ELECTRICAL TOYS** Baltimore has ever seen. Our store is a veritable land of Joy electric trains, from \$8.00 to \$40.00.

**Toy transformers, \$2.75 to \$7.50, according to capacity.**

Lionel outfits	Tree lighting outfits
Bing outfits	Bridges
Electric fountains	Tunnels
Windmills	and many others
Railroad station	

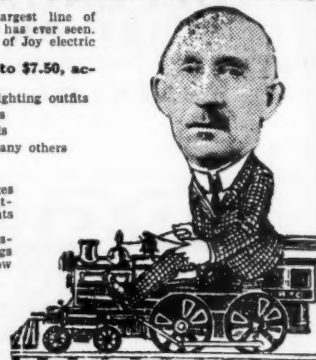
### Radio Dept.

Receiving outfits for all ranges and meters. We only handle outfits under the Armstrong Patents and accessories.

The name Zamoiski is an assurance of reliability in all things electric, not how cheap, but how substantial and good.

**Jos. M. Zamoiski Co.**

19 N. Liberty  
Baltimore, Md.



## BAKER SYSTEM REFRIGERATION

**NOT** to investigate the money saving possibilities of the Baker Ice Machine is an absolute disregard of those progressive principles which increase both business and profits.

Address your inquiry to Department Three.

**BAKER ICE MACHINE CO. Inc.**  
Omaha, Nebraska

## If you have Ice making, or Refrigerating Problems



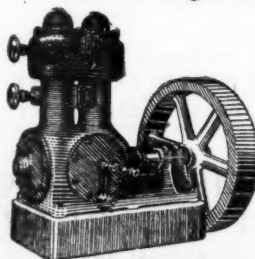
on which you require expert advice, we will give you the benefit of having your problem studied and suggestions sent you by men who make that problem their life work.

This information is at your service.

Write

**THE ARCTIC ICE MACHINE CO.**  
CANTON - - - - - OHIO

## York Refrigerating Machinery



There is a YORK Machine to meet every practical condition of Mechanical Refrigeration.

If interested in Refrigeration or the Manufacture of Ice,

Write us.

**YORK MANUFACTURING COMPANY - YORK, PA.**  
Ice-Making and Refrigerating Machinery exclusively

**Vogt** **PRODUCTS**  
REFRIGERATING AND ICE MAKING MACHINERY  
WATER TUBE & HORIZONTAL RETURN TUBULAR BOILERS  
DROP FORGED STEEL VALVES & FITTINGS  
OIL REFINERY EQUIPMENT - Ask for Bulletin

HENRY VOGT MACHINE CO., Manufacturers, Louisville, Ky

## SOUTHERN ICE MACHINE COMPANY

Manufacturers of

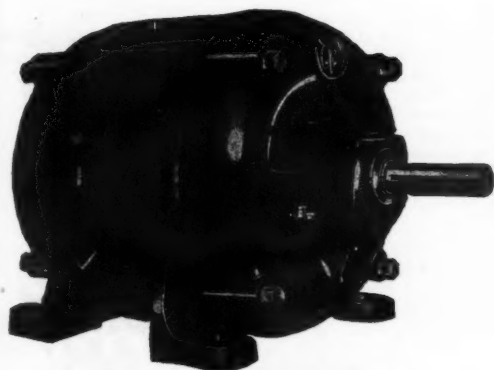
**Ice Making and Refrigerating Machinery**

Charlotte,

North Carolina



# ONE IDEA



## NC MOTORS

Built with one idea in mind—to make a better motor than any on the market—E. C. & M. Motor Engineers have built a motor better not only from a mechanical standpoint but from the standpoint of efficiency, power-factor and torque.

They have introduced new ideas in motor design and have made improvements upon existing designs.

The greatest of care is used in machining and assembling all parts so as to insure perfect fits.

Type N. C. Motors are built to give long continuous service with low upkeep cost.

Write for Catalogue 1045



### THE ELECTRIC CONTROLLER & MFG. CO.

BIRMINGHAM—BROWN-MARK BLDG.  
CHICAGO—CONWAY BLDG.  
CINCINNATI—NATIONAL BANK BLDG.  
DENVER—ENGINEERS BLDG.  
DETROIT—DIME BANK BLDG.

CLEVELAND, OHIO  
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NEW YORK—50 CHURCH ST.

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PITTSBURGH—OLIVER BLDG.  
SAN FRANCISCO—CALL BUILDING  
SEATTLE—524 1ST AVE. SOUTH  
TORONTO—TRADERS BANK BLDG.



### HUBBELL

Locking Lamp Guards  
Type 5685, for Brass Shell Sockets

HARVEY HUBBELL, Inc.  
BRIDGEPORT, CONN., U.S.A.



### CROCKER-WHEELER MOTORS

Niagara's Rival for Dependable Power

CROCKER-WHEELER CO., Ampere, N.J.



### ELECTRIC DRILLS

used by all branches of industry for manufacturing, production and for repair and maintenance work.  
Carried in stock and sold by electrical agents, dealers and supply houses; automobile supply houses; machinery dealers and supply houses; hardware dealers and supply houses. Jacobs chucks regular equipment.  
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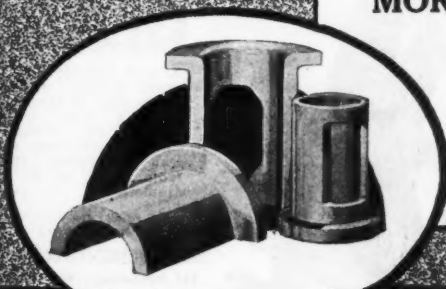
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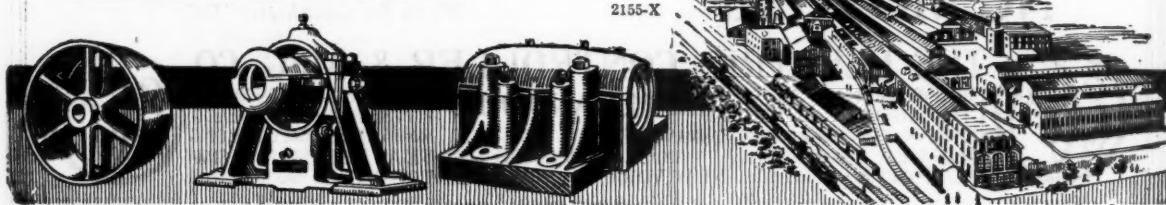
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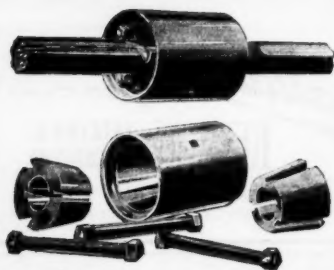
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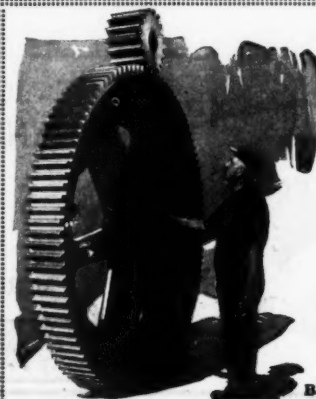
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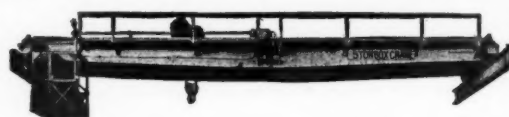
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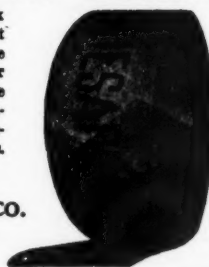
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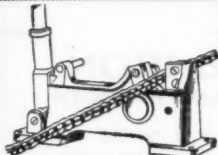


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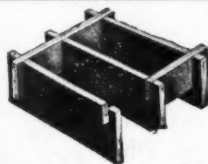
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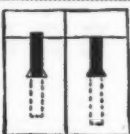
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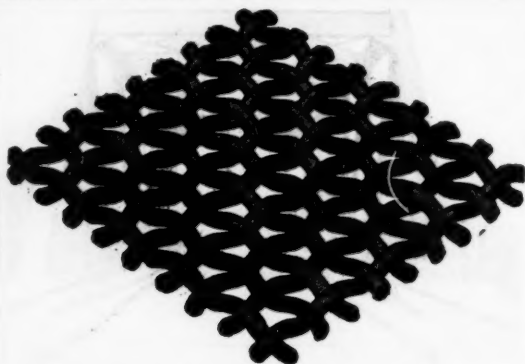
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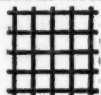
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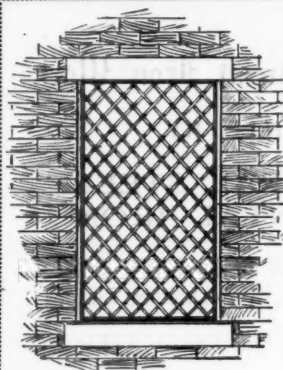
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For

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PLATE WINDOW MIRROR  
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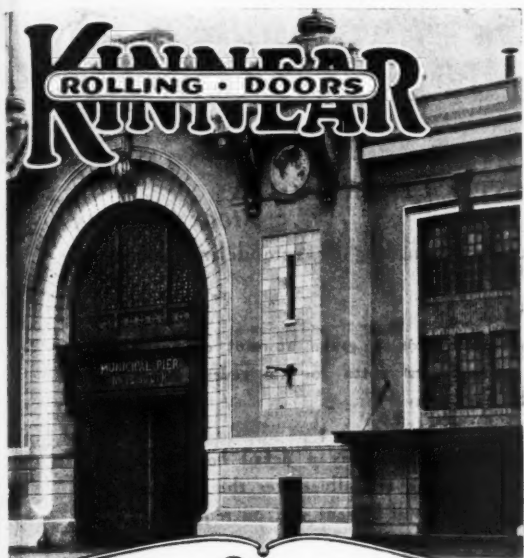
**HIRES-TURNER GLASS COMPANY**

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### Good Appearance

depends upon suitability. Kinnear Rolling Doors are perfectly adapted for use in public buildings, factories, stores, or warehouses. They will add value to your buildings, not only from the standpoint of utility, but in appearance as well. Our branch offices in principal cities and our Engineering Department at your service. Glad to send you Illustrated Catalog D-10. The Kinnear Manufacturing Company 823-873 Field Avenue Columbus, Ohio



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THERE are several logical reasons for the lower prices of RICHMOND Doors. First, RICHMOND'S enormous production facilities assure low cost manufacture of the product. Add to this, RICHMOND'S immense buying power, minimizing raw material costs. And RICHMOND manufactures its own hardware, effecting additional savings.

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Horizontal Folding Doors *Guaranteed*

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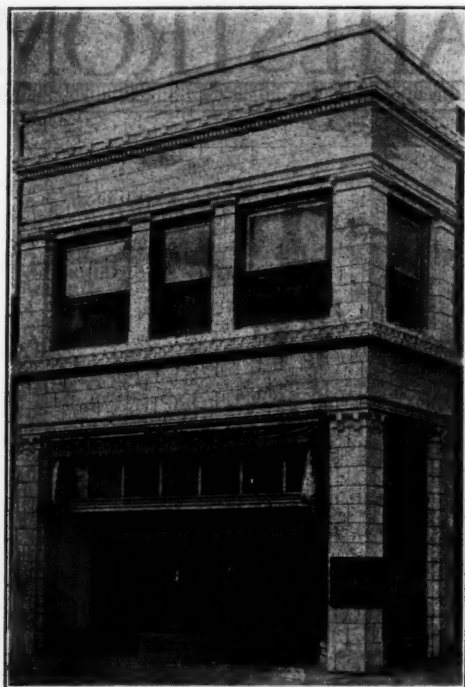
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White mull glazed terra cotta



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**ATLANTA TERRA COTTA**  
*Stock Designs*  
in your new building or remodeling operation

Doing so will  
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Our catalog explains in detail how this  
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A copy will be sent you on request

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for the building shown, which houses the  
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jewelry store of Tupelo.

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Citizens & Southern Bank Building  
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**Because** their soft delicate tones lend  
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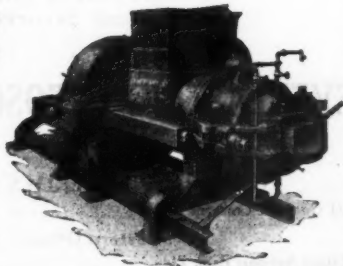
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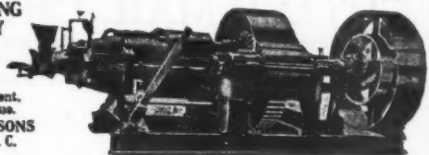
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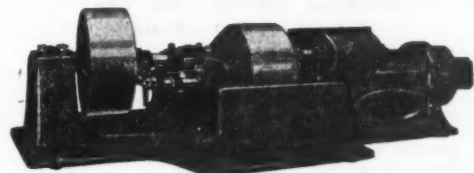
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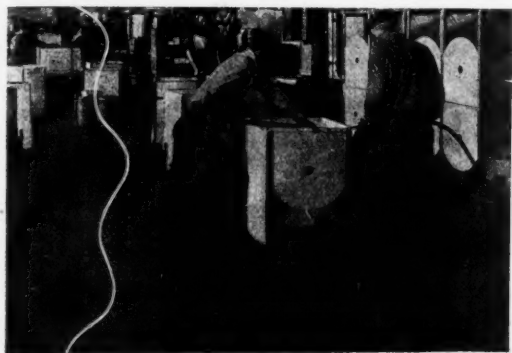
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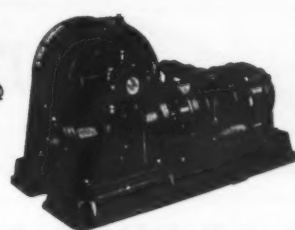
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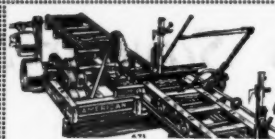
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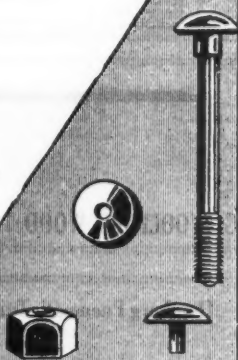
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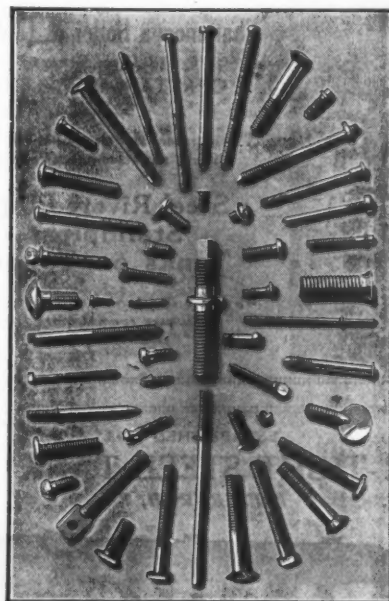
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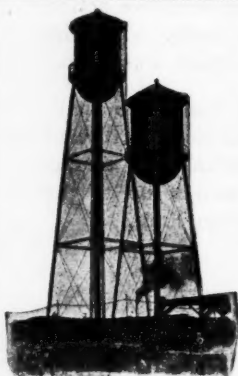
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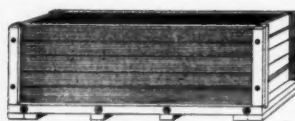
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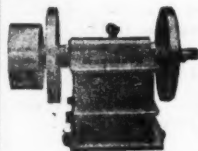
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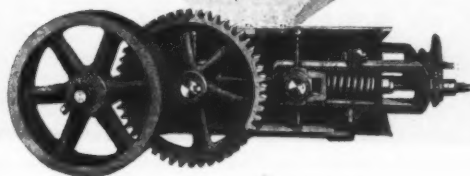
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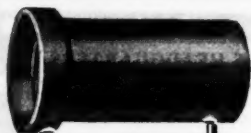
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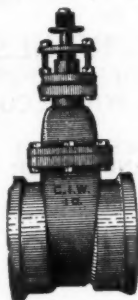
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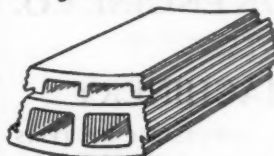
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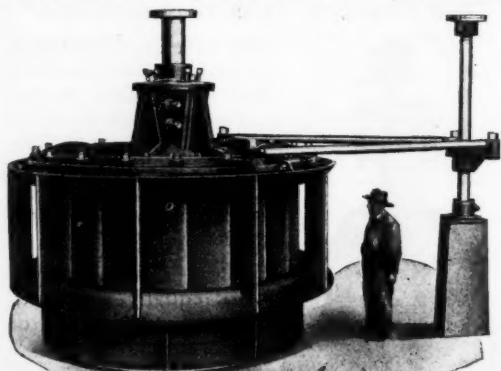
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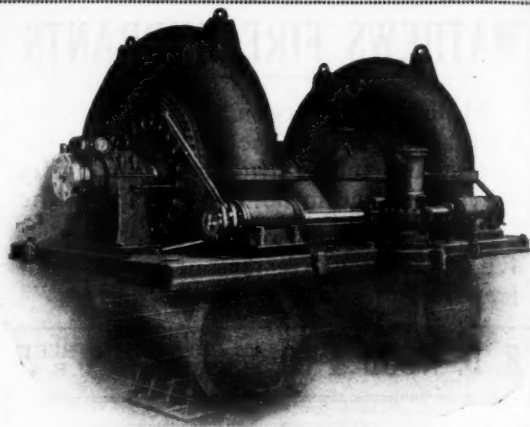
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DEVELOPED BY THIS PAIR OF  
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EIGHT UNITS LIKE THIS IN OPERATION  
IN RAINBOW PLANT, MONTANA POWER CO.

ALL SIZES AND TYPES OF TURBINES TO SUIT  
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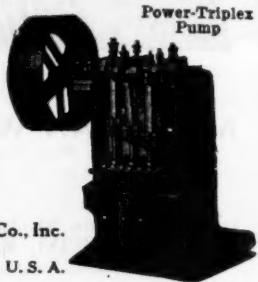
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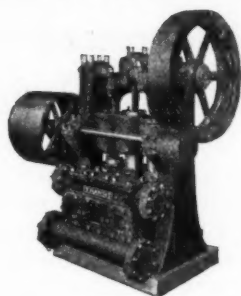


Fig. 1177

5 x 6" Vertical Triplex Power

## TRANSIT PUMP

We recommend installing a pump in such a position that the suction will be as low as possible, but there are some installations where a high suction lift is part of the job, and here we try to place one of these pumps to the mutual satisfaction of the customer and ourselves.

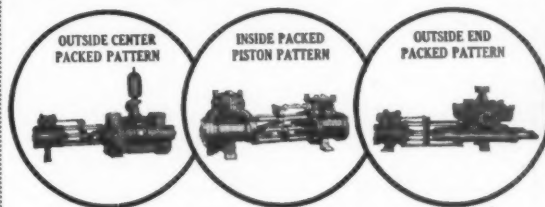
It's one of the old stand-bys redesigned and made so well that its capabilities are far above the average for a pump of this type.

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# PUMPS

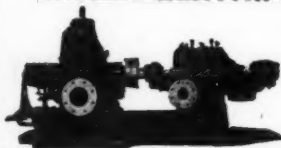
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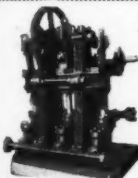


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Centrifugal Pumps of the  
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Smith-Vaile  Pumps



STEAM and POWER  
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## ERIE

### CENTRIFUGAL PUMPS

For Every Service



Fig. 267

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PUMP

BELT, MOTOR AND ENGINE DRIVE

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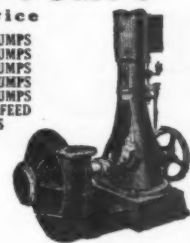


Fig. 239

ENGINE DRIVEN  
CONTRACTORS PUMP

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Entirely self-contained.  
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Rugged in construction.  
Only two mechanical working parts, both  
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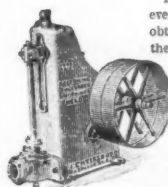
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Are now built in styles and sizes to meet practically every power service. They not only offer all that was obtainable in the old type of power pump, but through their covered working parts, positive oiling system and other modern features produce a standard of service that cannot be overlooked by the prospective purchaser of a power pump.

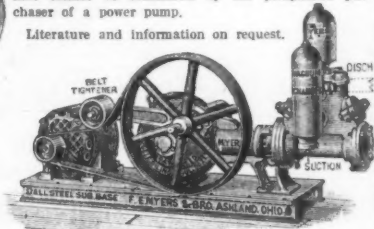
Literature and information on request.

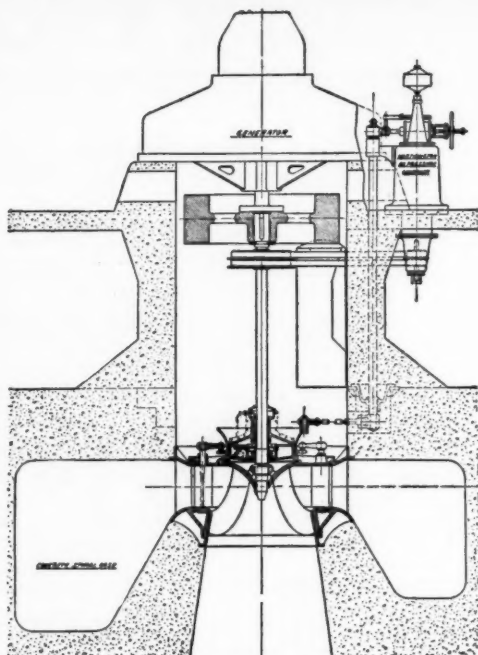


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Door Hangers.

THE F. E. MYERS  
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ASHLAND, OHIO.





Another of the seven Standard Worthington settings which cover practically every hydraulic power situation. This setting is best for heads from 25 to 50 feet.

## Standardized Means Better Design

The individual parts of Worthington Hydraulic Turbines are standardized throughout, so that each element receives more careful study and more complete testing than is possible in special designs for each occasion.

Building turbines out of standard parts not only eliminates many chances for error in the design of minor details, but also cuts the cost of repairs.

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COSTS LESS PER HOUR

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Crushing, Grinding and Separating Machinery

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Economical

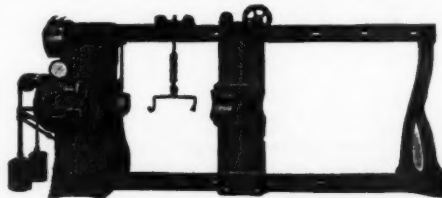


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In Use for 46 Years

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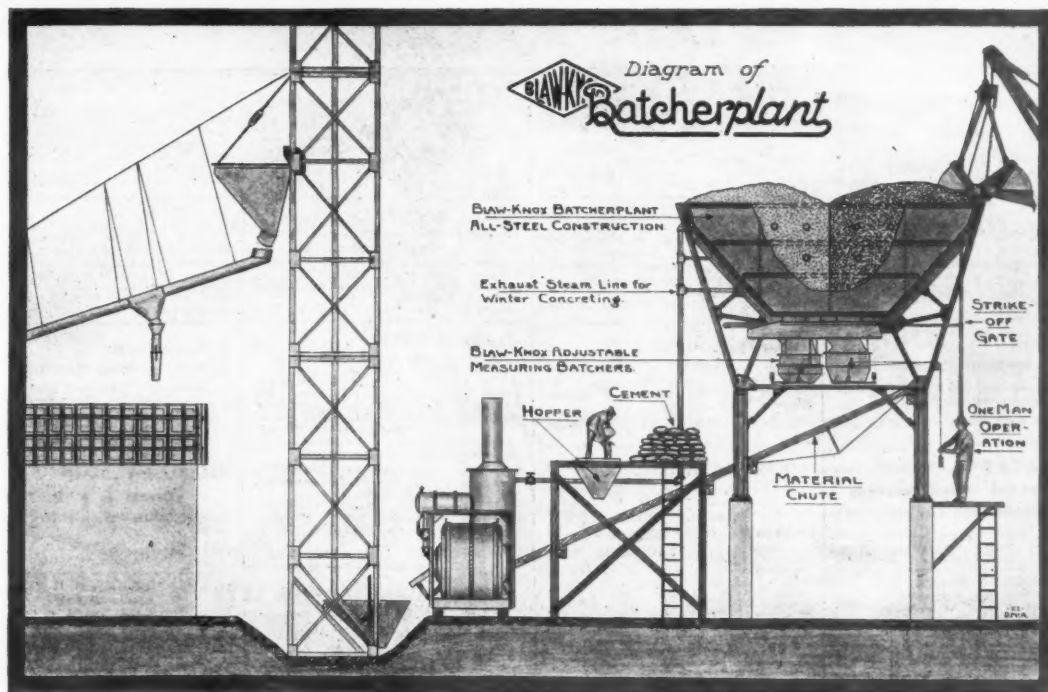


Diagram showing application of Blaw-Knox Batchplant to a central mixing and distributing system for building contractors.



**HONEST CONCRETE** is accurately measured sand, stone and cement, conforming with formulas painstakingly worked out by years of experience. Hit and miss methods (i. e., wheel-barrow measurements) weaken the concrete.

Speed, economy and accuracy in the proportioning of concrete are assured by the use of a Blaw-Knox Batchplant.

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Two men — one at the Batchplant, and one handling cement — completely operate this gravity system and chute accurate batches into the mixer as fast and often as necessary.

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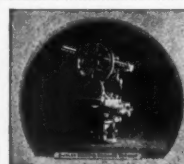
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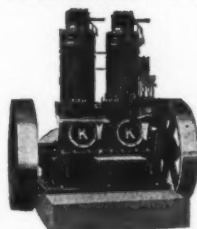
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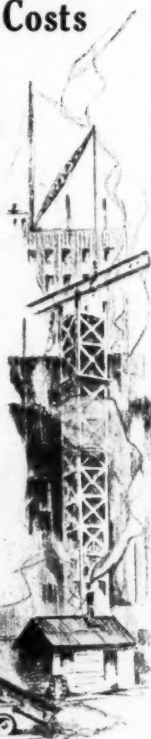
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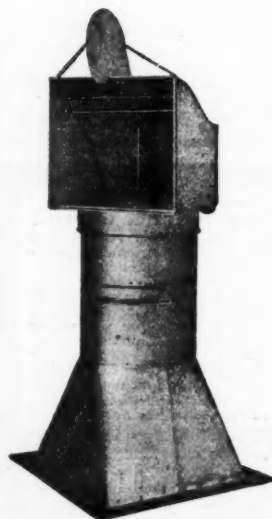


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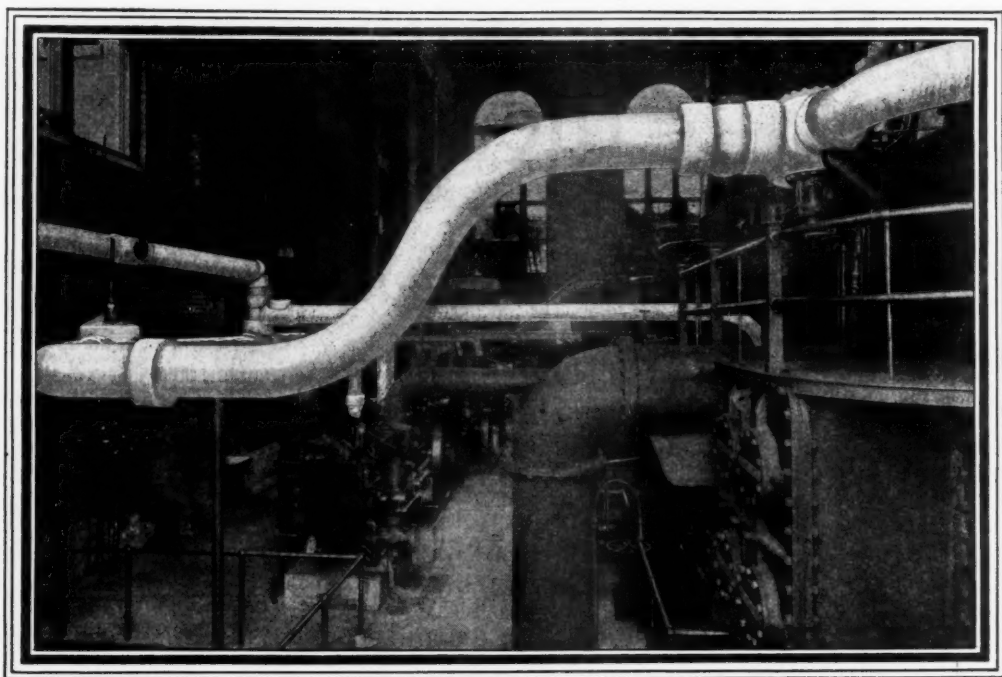
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# Manufacturers Record

Exponent of America

DECEMBER 21, 1922

Volume LXXXII

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PUBLISHED EVERY THURSDAY BY THE

MANUFACTURERS RECORD PUBLISHING CO., BALTIMORE, MD.

Branch Offices: New York, 30 Church St.; Chicago, 11 South La Salle St.; Boston, 734 Old South Bldg.;  
Washington, Whaley-Eaton Service, 456-459 Munsey Building.

### SUBSCRIPTION RATES

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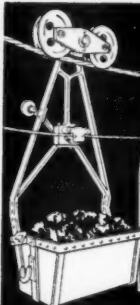
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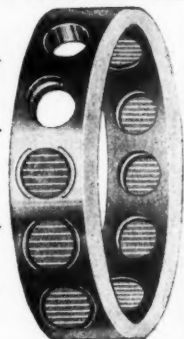
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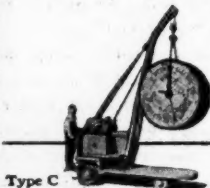
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Vol. LXXXII No. 25  
WEEKLY.

BALTIMORE, DECEMBER 21, 1922

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PUBLISHED EVERY THURSDAY BY THE

MANUFACTURERS RECORD PUBLISHING CO.

Office: Manufacturers Record Building, Cor. Commerce and Water Sts.  
BALTIMORE, MARYLAND

RICHARD H. EDMONDS, President      FRANK GOULD, First Vice-President  
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I. S. FIELD, Secretary      J. ROBERT GOULD, Treasurer

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BRANCH OFFICES:

CHICAGO, 11 So. La Salle St.      NEW YORK, 30 Church St.  
BOSTON, 734 Old South Bldg.  
WASHINGTON (Whaley-Eaton Service), 456-459 Munsey Bldg.

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## FINER CLAY.

By E. M. RODEBAUGH, Wheeling, W. Va.

My harmonies are not alone for those who tread the clod,  
But every soul which bears the seal of loving, tender God;  
For weakling soul, which needs "man help" and scarcely knows  
its own,  
For valiant soul which fears not death and bravely stands alone.

You owe God things, who bravely stand out from the common clay;  
You owe Him thanks for every hour and labor every day;  
You owe Him best of thought in brain and best of skill in arm  
To guide and help your brother weak, to shield from sin and harm.

You who would claim God's Fatherhood, how dare you then deny  
Your brother in the gutter there, as good as you or I—  
How dare you draw your skirts aside and with averted face,  
And quickly hastening footsteps leave, to you, the accursed place?

For you were strong and he was weak, and where the fault of God  
To save for you the Finer Clay, to use for him the clod?  
And why for him the gutter vile and why for you the hope  
Of residential bliss on High while he in darkness grope?

And why indeed should God have given you skill and strength of  
arm  
But 'twere to raise that brother up and shield his soul from harm?  
And why your brain to plan and do and why your money lust  
But 'twere to guard that brother's frame and keep him from the  
dust?

For some are made from common mud, some are from finer clay,  
The God, He draws the patterns fine, but man oft goes astray,  
And none can tell until the vase is DRAWN FROM OUT THE FIRE.  
To some He gives the shorter path, to some the longer road.  
Unto the weakling lighter tasks, the stronger DRAW THE LOAD,  
But STRENGTH He gives to THOSE WHO WORK, and SKILL to  
those who PLAN,  
To those who do THEIR VERY BEST He gives the title "MAN."

For some are made of common clay, their race is quickly run,  
And some are cast in finer mold, their lives are NEVER done;  
And some shall step from out their way, to touch a brother gone  
astray.

Then glory not in STRENGTH of arm nor skill of brain nor hand;  
Remembrance pleads thy brother's needs for which thy strength  
was planned;

Thy talents came from God above, they are a special gift—  
Then hasten, brother, find thy place, and give a mighty lift!

For some are made from common clay, they could not if they would;  
And some are cast from coarser mud; they would not if they could;  
But YOU, who knowing, shed no tear; and you who doing, feel  
no fear.

Oh, do the things for which I pray, and prove your claims of  
FINER CLAY!

[Editor's Note: Mr. Rodebaugh is president and general  
manager of the Ohio Generator Co.]

COUNTRY'S CROPS VALUED AT \$7,573,000,-  
000, WITH COTTON BRINGING OVER  
\$1,250,000,000 TO THE SOUTH.

OVER a month ago the MANUFACTURERS RECORD predicted  
an increase in crop values this year over last of over  
\$1,500,000,000, of which at least \$1,000,000,000 was the South's  
portion. In that editorial attention was called to the fact  
that the trend of farm prices was upward.

Based on production and value as of December 1, the  
Agricultural Department announces in its final report for the  
year that the value of the country's crops this year will be  
\$7,572,890,000, or \$1,842,000,000 more than the value of the  
1921 crops. This increase is reflected in stronger prices for  
farm products this year compared with 1921 prices, and  
also increased production in some crops.

The value of the 1922 crops, however, is but a little more  
than half the reported value of 1919, and \$1,540,000,000 less  
than the 1920 crop values. In fact it is the smallest in  
value of any year since 1915 excepting 1921. One redeeming  
feature, however is that most of the crops were produced at  
greatly reduced cost compared with the expensive farming  
operations of the last few years. This of course will enable  
farmers to meet some of their outstanding loans which were  
carried over from 1920 and 1921, even if it will not leave an  
extra large surplus for spending.

Cotton this year, valued at \$1,190,761,000, based on Decem-  
ber prices, is the fourth largest in point of value of any  
cotton crop, but the second smallest in production in 21  
years. Elsewhere in this issue will be found a detailed state-  
ment of this year's cotton crop with comparisons.

From Texas comes the report that the cotton crop has  
brought to that state more than \$370,000,000 and is serving  
to create more prosperity than has been felt for several years.  
This is general over the South. Another thing contributing  
to the prosperity of the cotton farmers is that of cheap  
labor. The cost of picking and of field work generally was  
far below that of last year and was back to a pre-war basis.  
The low price paid labor explains in large measure the re-  
cent exodus of negro farm labor to the industrial centers  
outside of the South. Money from the cotton crop is finding  
its way into all channels of trade and industry. The Texas  
report states that one noticeable effect of the returned pros-  
perity of the farmers is that there is taking place a revival in  
the demand for land. Farm values are said to be on the  
upward trend, and mercantile interests are recovering from  
the period of depression which hovered over the country.

Corn, of which the South produces about a third of the  
country's total crop, continues the most valuable crop of  
the nation, with an increase this year over last of \$603,-  
000,000, approximately \$200,000,000 of this increase in corn  
crop value going into the South.

Sweet potatoes, white potatoes, hay, and rye, show record  
productions this year. The rice crop this year is the third

largest ever produced; tobacco is the fourth largest; wheat the fifth largest crop, and corn the seventh largest.

Compared with the November 1 estimate by the Government, its December report shows a reduction in the corn crop of about 5,300,000 bushels and 14,278,000 bushels reduction in oats. December estimate for cotton is 171,000 bales less than reported in November. However, increases were reported for winter wheat, 45,000,000 bushels; spring wheat, 1,700,000 bushels; rye, 15,874,000 bushels; buckwheat, 1,407,000 bushels; rice, 2,806,000 bushels; potatoes 17,280,000 bushels; hay, 4,055,000 tons, and kafirs or grain sorghums, 8,893,000 bushels.

The production of all grain, estimated as of December 1, amounts to 5,403,660,000 bushels, compared with 5,318,917,000 bushels produced in 1921. The value of this year's aggregate grain crops, as of December 1 prices, is \$3,566,963,000 compared with \$2,568,676,000 last year.

#### 1922 Production and Value of Principal Crops.

(Based on December 1 Estimates.)

	Production	Value
Corn, bu.....	2,890,712,000	\$1,900,287,000
Wheat, bu.....	856,211,000	864,139,000
Oats, bu.....	1,215,406,000	478,548,000
Barley, bu.....	186,110,000	97,751,000
Rye, bu.....	95,497,000	68,085,000
Buckwheat, bu.....	15,050,000	13,312,000
Flaxseed, bu.....	12,238,000	25,869,000
Rice, bu.....	41,965,000	41,836,000
Kafirs, bu.....	90,381,000	79,136,000
Total grain bu.....	5,403,660,000	\$3,566,963,000
Potatoes, bu.....	451,185,000	\$262,608,000
Sweet Potatoes, bu.....	109,534,000	84,492,000
Peaches, bu.....	56,705,000	75,613,000
Pears, bu.....	18,661,000	19,789,000
Apples, bu.....	203,628,000	202,102,000
Peanuts, bu.....	25,000,000	29,222,000
Beans, bu.....	11,983,000	44,429,000
Cloverseed, bu.....	1,875,000	18,905,000
Onions, bu.....	17,940,000	16,471,000
Total bushels.....	6,300,171,000	\$4,320,594,000
Cotton, bales.....	9,964,000	\$1,190,761,000
Cottonseed, tons.....	4,424,000	177,756,000
Tobacco, lbs.....	1,324,840,000	306,162,000
Hay, tons.....	112,791,000	1,331,679,000
Sugar beets, tons.....	5,243,000	29,605,000
Beet sugar, lbs.....	1,382,000,000	.....
Cane sugar, lbs.....	482,752,000	.....
Maple sugar, lbs.....	34,806,000	7,623,000
Sorghum syrup, gallons.....	36,532,000	25,946,000
Cabbage, tons.....	1,097,000	14,301,000
Oranges, boxes.....	24,900,000	61,395,000
Miscellaneous.....	.....	107,068,000
Total value.....	.....	\$7,572,890,000

#### ARE WE A CREDITOR NATION?

**EUGENE MEYER, JR.**, of the War Finance Corporation, is reported to have stated to the Banking and Currency Committee of the Senate, when testifying concerning agricultural credits, that it would be wise not to lose sight of the large credits owned in this country by Europeans. He stated that Germans now owned large deposits in American banks, as a result of which it had been possible for American and German bankers to resume relations on a more stable basis.

One of the chief problems the Reparations Commission has to solve is to discover the extent of German holdings abroad. It is admitted that hundreds of millions have fled the country. But the situation has even larger elements than that. On account of the general instability in Europe, there is reason to believe that enormous capital holdings have been transferred to the United States. Perhaps some of the economists who are so fond of gathering statistics might compile an approximately accurate estimate of European holdings in the United States. It would not be surprising if they found that this nation is not quite so heavily a creditor country as the public believes. There are some students of finance who are bold enough to say that we are still a debtor country.

#### SOME CHRISTMAS DEMANDS OF UNION LABOR.

**ACCORDING** to a circular issued by the National Association of Manufacturers, the Union Label Trades Department of the American Federation of Labor has just issued to all labor unions a statement that labor unionists should see to it that:

**Christmas gifts bear the union label.**

**Stores employ only union clerks and drivers.**

**Churches engaging special orchestras at Christmas hire only union musicians.**

**Christmas programs bear the union label.**

**Holiday season entertainments employ union waiters who serve union bread, cake, meat and soft drinks.**

It is hardly possible to see how the selfishness and greed of despotic unionism could go further than in this demand.

Christmas gifts, which are supposed to represent something of the spirit of Him whose birth Christmas celebrates must no longer be sent, according to the Union Labor Trades Department of the American Federation of Labor, without bearing a union label. We presume that even the gift of a Bible would be resented unless it bore a union label and the story for a little child that told of the coming of the Savior and of His love for little ones must bear a union label or else be accursed. Even churches must hire for Christmas services only union musicians and Christmas programs must bear the union label. When these demands are complied with it will be when the people of America are lost to all honor, when their backbones have ceased to have any rigidity and are as weak and flabby as a cotton string, and when they are ready to get down on their knees and worship union labels as though they were worshipping the Almighty and say to union labor that we are willing to live and breathe and have our life in union labor and in that alone. Then and not until then will the people of this country be willing to adopt the demands of the Union Label Trades Department of the American Federation of Labor.

It must however be remembered that these demands are only in keeping with the whole spirit of the organization which would enslave the people of this country and with diabolical malice make it impossible for independent or non-union clerks and drivers and musicians and all those who are not willing to have the chains of union slavery around their necks, as typical of slavery chains around their brains and their souls, find employment of any kind. And what a spirit for Christmas time is this demand of union labor, a time when of all other times selfishness and evil thoughts and evil desires should be banished as one bows in thought and spirit before the manger-born child who came to bring heaven to earth and to lift earth to heaven!

#### GERMAN POTASH PRICES SOARING.

**ACCORDING** to cable advices received by the Department of Commerce, German potash prices effective December 1 were approximately 145 per cent higher than those of November 1. Carnallite, 9 to 12 per cent pure potash content, is quoted at 5611 marks per metric hundred weight; fertilizer salts, 28 to 32 per cent pure potash content, at 12,403 marks; and potassium chloride, 50 to 60 per cent pure potash content, at 17,538 marks.

The Germans are at their old tricks again. American farmers can now dig down in their jeans and pay for this country's folly in allowing its infant potash industry to be strangled by German inspired propaganda.

November potash deliveries were stimulated by impending increases in price, and freight rates, which increases became effective December 1. Export sales also increased, and orders were received from countries which had not been previously purchasing.

## How Business is Hampered by Inadequate Railroad Facilities and Hostility to Railroads Created Thereby.

THE Interstate Commerce Commission made a very great blunder in its annual report, on which we commented last week, in the course of which it said that "existing high rates no longer interfere with the flow of commerce as a whole." In this statement the Interstate Commerce Commission convicts itself we are sorry to say of seeking to mislead the public—a very dangerous program to follow. The proof to the contrary of the statement quoted can be found in every part of the country. But in addition to that fact there is overwhelming evidence everywhere that the wholly inadequate transportation service is hampering business and, keeping it back to an almost unprecedented extent as compared with what the volume of traffic would be if the railroads could handle it.

The State Gravel Company of New Orleans for instance in commenting upon our cover page editorial of December 7th on the lack of transportation writes that our statement of the case is "certainly correct" and adds:

"The Missouri Pacific Railroad has practically quit in Louisiana. We need seventy-five cars daily and cannot average six. All roads down here are fighting good roads. Road building is one of the biggest and most vital businesses in the country. Did you ever see a gravel car? We never did. Why don't they buy some good cars like they do for other business; they do not want to see good roads built."

Whether right or wrong the spirit shown in this letter from the State Gravel Company is typical of the spirit throughout the country. The railroads have utterly failed to convince the public that they are doing the best that could be done for their interest.

Another letter we have just received is from the Birmingham Clay Products Company, of Birmingham, in the course of which it said, "I regret to say that the car supply for the past four months has amounted to only 57 per cent of our requirements."

So long as the feeling shown by the State Gravel Company of New Orleans continues, and it is typical of how thousands of manufacturers and other business men generally throughout the country are feeling, railroads will get no relief from agitation against them. They must correct this condition.

In line with the preceding letters is one from the Keliber Construction Company, of Little Rock, Ark., in which referring to the cover page editorial in regard to inadequate transportation that company writes:

"Your 'Cover Page Editorial' of December 7 is indeed timely. We, of the road building industry, would like to be able to feel that the 'Operating Prospects for 1923' will be as free from delays due to lack of transportation facilities as the quoted prediction from the railroad people seems to indicate.

"We would like to know whether the railroad officials have ordered cars for the transportation of sand, gravel and cement, or will we have to use 'coal cars' when they are not required for the transportation of coal, and wheat cars when the crops are not being moved. Can we count on a full construction season with the assurance that there will be sufficient cars for road building materials throughout the entire year or will we have shut-down in the fall and give all of our cars to the other industries?

"When we ask for 'Sand and Gravel Cars' will the railroads know what we mean or will they start talking about some priority order requiring all 'Coal Cars' to move in the direction of the mines? Wouldn't it be a grand and glorious feeling if we could get a contract with the railroads for the delivery of our daily requirements of cars under penalty of their paying as liquidated damages just one-half of what it costs us when they fail to give us material?"

On the other hand, we have a letter from Mr. T. H. Gamble,

president of the Gamble Bros., Highland Park, Ky., taking very decided issue with our statement as to inadequate transportation. Mr. Gamble's letter is as follows:

"Your editorial on the front page of your issue of December 7 is so extravagant that we feel that we must make a protest. Notwithstanding the fact that the railroads in the country are working under most adverse conditions it appears from information from sources which we consider absolutely reliable that they handled more freight in the months of September, October and November, 1922, than in any three months in their history, and that in the month of November, 1922, they handled more freight than in any one month of their history. Our own experience bears out the truth of this statement, for the railroads delivered to our plant fifty-six loaded cars during the month of November, this being about 10 per cent more than they ever delivered to us before in one month.

"Your statement in the next to the last paragraph of your editorial:

"If all car and locomotive shops in the country were crowded to their utmost capacity, running 24 hours a day, and every steel rail mill was worked on the same basis, they could not supply the cars and locomotives and rails that are needed to meet the pressing conditions existing on the railroads of the country, which will grow more pronounced as business increases," is meaningless, as you fail to mention a time limit for this accomplishment."

We think Mr. Gamble has failed to study the facts on which that editorial was based, for we are quite sure that there is not an extravagant statement in it. It is true, as he says, that the railroads are now handling more freight than formerly, but that does not indicate to any thoughtful mind that they are handling all the freight that is available.

We recently published a letter from the Southern Clay Manufacturing Company, of Chattanooga, to the effect that its plant had been run at only one-third capacity during the year because of the inability to get cars, and that this decrease in output, although there was a market for every ton they could produce, resulted in a higher cost of production and, therefore, higher cost to buyers. A similar condition was reported by the Birmingham Slag Co, which indicated that it had been able to ship only about one-fourth of its orders because cars could not be had. From all parts of the country similar reports come, and Mr. Gamble is therefore taking a wholly erroneous view, and entirely contrary to the facts known to thousands and tens of thousands of business men throughout the country. The fact that the railroads are hauling more freight than formerly has no bearing whatever upon the question of their ability to haul the volume of freight that is available if transportation were to be had.

Mr. Gamble also thinks that the paragraph in the editorial in which it was stated that if all the car and locomotive shops in the country were crowded to their utmost capacity, was "meaningless" because we failed to mention a time limit. We think our readers all understood, or at least most of them did, that we were discussing the statement which had been issued by some railroad interests to the effect that there would not be a transportation condition next year similar to the one now existing, and which existed in 1921, and the whole editorial bore directly on the question of next year's transportation facilities. Therefore, the only interpretation whatever which could have been put upon the statement as to car and locomotive shops was to indicate that if they were run for 24 hours during all of next year they would not be able to produce the cars and locomotives needed. These facts are so well known to the general public and to rail-



road people that very few business men or railroad officials undertake for a moment to take the view expressed by Mr. Gamble. Last year the railroads of the country ordered 23,000 freight cars and 240 locomotives, whereas as far back as 1905 and 1906 the roads would annually buy ten times as many cars and ten to twenty times as many locomotives as they bought in 1921 and they found full use for all the rolling stock which they bought so heavily in those days.

Ex-Governor Cornwell, of West Virginia, now General Counsel of the Baltimore & Ohio Railroad, in an address to railroad executives at the New York Railroad Club Jubilee Dinner on Dec. 13, pointed out to the railroad people there some of the mistakes which they had made and showed some of the conditions which must prevail if they are to win back public favor. Gov. Cornwell said that the country is simply outgrowing the transportation facilities, just as the big railroad men of the country were predicting a score of years ago; and after urging a voluntary decrease in rates on farm products he stated that the car shortage is making socialists temporarily out of a good many shippers of other classes of freight.

Gov. Cornwell, though now a railroad man, did not attempt to minimize the shortcomings of the railroads in the past, but he urged that the railroads should acquaint the country with the prevailing situation and seek to win public favor back to them in order that transportation facilities might be increased. Elsewhere in this issue we present some of the striking points of advice given by him to the railroad officials to whom he was speaking.

## SECOND SMALLEST COTTON CROP IN 21 YEARS; THOUGH FOURTH LARGEST IN VALUE.

THE Government's December estimate of the country's cotton crop for 1922 is 9,964,000 bales, which is the second smallest production of cotton in twenty-one years. Coming on top of the exceedingly small crop of 7,953,000 bales produced last year, it is no wonder that textile interests the world over have become alarmed over the decreased cotton supply. The only thing that has saved the industry from an actual cotton famine so far is the large carry-over at the close of the war. The world is now using over 3,000,000 bales of cotton more than will be raised this year, with a corresponding decrease in carry-over.

The Census Bureau reports that American mill consumption for November amounted to 577,561 bales, which was the largest quantity consumed during any month since October, 1917. The first four months of this season show an approximate monthly consumption by American mills of 533,000 bales, which is at the rate of 6,400,000 bales for the twelve months. Exports continue strong being only a little under the figures of last year. Total exports from August 1 to December 15 amounted to 2,510,147 bales, compared with 2,652,853 bales for the same period of 1921.

Cotton growers will receive for this year's short cotton crop excluding seed, about \$1,190,000,000, and the value of the total crop including seed is approximately \$1,400,000,000, making it the fourth largest in point of value ever produced in this country. In spite of this, cotton growers are not receiving the true worth of their product as compared with the value of other commodities, and the greatly reduced supply of the staple with increasing demand.

Compared with last season, there was a large increase in cotton acreage this year, but the boll weevil took heavy toll in many sections, especially in South Carolina and Georgia, cutting the yield from 20 to 60 per cent in some localities.

There is every reason to believe that the final estimate of

the country's cotton production will be even smaller than the Government's December report. The last estimate is 171,000 bales less than its previous report issued during the growing season. The August estimate was as high as 11,449,000 bales, decreasing with each succeeding month's forecast. Furthermore, the last estimate by the American Cotton Association was a cotton crop of 9,615,000 bales of 500 pounds. In 1921, 7,639,961 bales of cotton were ginned prior to December 1, and the final figures for the cotton production of that year were 7,953,641 bales. The quantity of cotton ginned prior to December 1, 1922, was 9,318,144 bales, and the December estimate of the 1922 cotton crop was 9,964,000 bales. As the cotton crop this year was picked earlier than usual and ginned more closely to date, compared with previous ginning records, it is safe to assume that the final estimate of cotton production for 1922 in the United States will be less than the December estimate of the Government, and probably may be under 9,600,000 bales.

However, the Crop Reporting Board of the Agricultural Department reports:

The total production of cotton in the United States for the season 1922-23 will amount to 4,767,262,000 pounds (not including linters), equivalent to 9,964,000 bales of 500 pounds, gross weight (478.4 pounds lint and 21.6 pounds bagging and ties estimated per 500-pound gross-weight bale).

Total production in 1921 was 7,953,641 bales (500 pounds gross); in 1920, 13,439,603 bales; in 1919, 11,420,763 bales; in 1918, 12,040,532 bales; in 1917, 11,302,375 bales; in 1916, 11,499,930 bales; and in 1915, 11,191,820 bales.

The average weight per running bale is estimated at 503.5 pounds gross, compared with 498.5 pounds in 1921 (as reported by the Bureau of the Census), 506.4 pounds in 1920, 504.2 pounds in 1919, and 504.9 pounds, the average for the preceding five years.

Reports of the Bureau of Agricultural Economics do not include "linters," which are a product obtained at mills from the seed. The production of "linters" is about 7.4 per cent as much as the lint production; (average 1916-1920).

The price per pound of lint cotton to producers December 1, 1922, was 23.8 cents, compared with a December 1 price of 16.2 cents in 1921, 13.9 cents in 1920, 35.6 cents in 1919, 27.6 cents in 1918, 27.7 cents in 1917, 19.6 cents in 1916, and 11.3 cents in 1915.

Estimated Cotton Production in 1922, With Comparisons by States.

State	Bales of 500 Pounds, Gross Weight			Price Per Pound	
	1922	1921	5-year Aver. 1916-1920	Dec. 1 1922	Dec. 1 1921
Alabama	835,000	580,222	645,570	24.0	16.0
Arkansas	1,040,000	796,936	1,038,809	23.6	18.1
Florida	25,000	10,905	28,552	23.0	18.0
Georgia	725,000	787,084	1,780,383	23.9	16.6
Louisiana	357,000	278,858	470,994	24.0	15.0
Mississippi	1,010,000	813,014	959,919	24.1	16.6
Missouri	149,000	69,931	65,716	21.5	15.0
North Carolina	852,000	776,222	785,081	24.5	16.4
Oklahoma	635,000	481,286	942,884	23.0	15.4
South Carolina	530,000	754,590	1,357,568	24.3	16.0
Tennessee	400,000	301,959	317,555	24.5	16.0
Texas	3,290,000	2,198,158	3,398,378	23.5	16.1
Virginia	25,000	16,368	22,930	23.0	16.4
Arizona	42,000	45,323	49,662	30.0	27.0
California	*85,000	†34,109	60,017	22.0	17.0
All other	15,000	8,715	7,123	25.0	20.0
United States	*9,964,000	7,953,641	11,930,641	23.8	16.2

\*About 51,000 bales grown in Lower California (Old Mexico) included in California figures but excluded from United States total.

†includes about 8000 bales of the 50,000 bales grown in Lower California (Old Mexico.)

Production and Acreage of Cotton Over Term of Years.

	5-year Average	Production Bales	Acreage
1911-1915		14,175,871	35,083,000
1915		11,191,820	32,107,000
1916		11,449,930	36,052,000
1917		11,302,375	34,925,000
1918		12,040,532	37,073,000
1919		11,420,763	35,133,000
1920		13,439,603	35,504,000
1921		7,953,641	26,519,000
1922		9,964,000*	34,852,000

\*December estimate.

## REDUCE FARMERS' FREIGHT RATES AND ADVERTISE IN NEWSPAPERS IS EX-GOVERNOR CORNWELL'S ADVICE TO THE RAILROADS.

**E**X-GOVERNOR JOHN J. CORNWELL, of West Virginia, now general counsel of the Baltimore & Ohio Railroad Company, delivered a cogent address at the fiftieth anniversary dinner of the New York Railroad Club in New York City on December 12, advocating a reduction of freight rates upon farm products right in line with the editorial suggestions made by the MANUFACTURERS RECORD from time to time and furthermore counseling his auditors to begin a wide campaign of newspaper advertising to acquaint the public everywhere with the difficulties of the railroads and of their desire to be of the fullest advantage and service to agriculture, industry and commerce. He said:

"This country cannot become really and truly prosperous, or if it has become prosperous it cannot long remain so, unless the farmer has his proper share of that prosperity. Beside being the food producer, the purchasing power of the farmer in normal times is almost as great as that of all the balance of the people. If the farmer is crippled or his purchasing power is impaired for long the rest of the country and all other industries, including the railroads, will soon be affected.

"The farmer's products have been deflated to a greater extent than those of anybody else, while he is competing, when he employs labor, with wages of other groups of employes that have not been deflated. The coal miner is getting the highest wage that was paid as a result of war conditions. So what are many farmers doing. Taking their boys and their girls out of college and preparing to cultivate only the land they and the members of their families can till. They find it impossible to sell their farm products at prices which will let them out on the cost of production.

"And what else is the farmer doing. He is getting in a bad temper, an ugly frame of mind. When a man has been robbed, or thinks he has, and a seemingly respectable man points out the robber, what is the man going to do? Is it not natural that he should go after the robber, real or supposed? That is what the farmers seem to have thought they were doing in the recent election in some of the agricultural states. They have been convinced that the railroads have unjust and exorbitant freight rates and they have prepared, not exactly to go after them, but like the old farmer I once knew was about going to church. He said he would either go or send. Those western farmers are sending.

"The next Congress will in all probability seek to do some very decisive things. Instead of putting teeth into the Transportation Act, as some of you railroad men have been talking, they are liable to cut the very gizzard out of it, if indeed it is not scrapped entirely. \* \* \*

"The first thing I would suggest is that the railroad executives of the country, with their traffic men, get together and see whether it is possible to make some reduction of rates on agricultural or farm products. Now gentlemen, that does not sound good to you, does it? Well, the pressure on the Interstate Commerce Commission will be so great that it will probably make the reduction for you, and if it should fail to do so, the next Congress will do it in some way. Would it be better to do it yourselves or have it thrust upon you after you have fought and lost?

"I am not arguing that the railroads can afford to make such reduction. I am thinking you might work out an agreement with the farmers' organizations whereby you could get away with a smaller reduction than will finally be forced upon you after you have made a fight and lost.

"It would mean in the end, a great deal if a satisfactory adjustment of the rates on farm products, an adjustment reasonably satisfactory to the farmer, could be secured, for he does not want to ally himself with the radical movement in Congress or out of it. He is naturally a conservative and he has no particular desire to ally himself with any organization that aims to keep wages on a false basis through artificial means. But he is going to make that alliance in the end if he has to.

"Then I would put on a tremendous publicity campaign to put the facts as to the railroad situation before the coun-

try. The country is simply outgrowing the transportation facilities just as the big railroad men were predicting a score of years ago would be the case, and why?

"We know, but the people don't know, that it is chiefly because the railroads have been over-regulated and over-restricted and limited in their operations and limited in their earnings until it is really a great tribute to the men who have been handling them to say that they are operating at the peak, as they have been in the past two months and just following a strike. \* \* \*

"Then if possible, I would have a column all the year around in every newspaper on the line of the road, a column paid for by the year, and when it was not being used for regular schedules and excursion advertising, I would be telling the story, some phase of it, in there every week. You could cut out some of the other kind of advertising and take off some of your solicitors if that were done and followed up.

"This country is built upon, around and along the railroad lines. It is the crime of the age that a constant warfare should be kept up against the carriers,—upon which the country depends,—by a certain element of our population and a certain per cent of politicians and public officials. If there are any wrongs existing they should be corrected, but in the name of Heaven are there not enough agencies at work regulating and correcting the railroads to see that they do not do anybody a wrong! All of these are on the job in some form or other and yet there are a flock of men elected to the new Congress upon the theory that the railroads are running unbridled about the country robbing the farmers in particular and the shippers in general. Let us all go out and meet them and their associates, meet them before the people and in the newspapers, rented columns if need be, and set them right if possible, but above all endeavor to get an enlightened public sentiment, for you are going to need it when the next Congress gets into action. You have not spent enough time at this work."

Incidentally in his address Governor Cornwell said the car shortage is making socialists temporarily out of a good many shippers of other classes of freight than farm products and that some of them are standing around saying "If this is the best the railroads can do I am for government ownership." He also remarked that his suggestions were only his personal opinions, not those of a railroad man or of the general counsel of the Baltimore & Ohio Railroad, but rather those of one who was lately one of the general public and not long ago a public official having his troubles in dealing with some very acute industrial disturbances.

Again he said: "If there are any unfair rules or practices being engaged in anywhere on the part of the railroads, they should be cut out, regardless of whether they are strictly permissible under the laws. The public does not understand that among the agents and officers of a system there are bound to be a few men here and there who will occasionally do things not exactly right. I sometimes wonder whether the executive officers are themselves as alert and careful as they might be to ascertain whether the under officials, or all of them, are playing the game as square as they might be."

Another thing which the speaker suggested was that in future bond issues the denominations of bonds should be reduced,—or at least some of them,—and that as wide a distribution of them as is possible should be sought. "Out west," he declared, "the clamor for municipal ownership of electric lighting plants has been stilled in a great many localities by the corporations' selling stock and bonds to their customers."

"If the railroads," Governor Cornwell concluded, "can get by the period they are now approaching and if the coming Congress can be persuaded not to take away the only safeguards left and turn the forty eight states loose on them to tear them into pieces and make them a patchwork, then with reasonable prosperity ahead for a few years, they will settle down into a more peaceful state and federal ownership will be avoided. But it is going to take a fight to stave off those things and you should begin now, not wait until the thing is upon you."

## THE CHARACTER AND EXTENT OF AMERICA'S AID TO EUROPE DEPENDS UPON THE WAY SHE ATTACKS HER PROBLEMS.

**I**S peace intolerable?

Four years after the Armistice hate still reigns in Europe. Intrigue sits in high places. The legacy of the Tiber, not the heritage of Calvary, lies like a blanket over the Continent. The hates and the enmities of the Caesars hold sway, and the hand of the Middle Ages rocks the cradle of civilization.

The white race cannot afford to witness a collapse of Europe. Islam has for a long time been in secret or open revolt. The Turk, ferocious as ever, is back in Constantinople. Civil war is changing China from a nation of pacifists into a nation of soldiers. The frontiers of Western civilization are challenged, terribly challenged, but the West, enfeebled after the greatest war in all history and almost bankrupt, has found peace so unwelcome that it will not have it. The war chiefs make ready for new conscriptions. And this in an age when all the romance and attractiveness of war have been stripped from it. We know it for the brutal and awful thing that it is. It is the abandonment of reason and the apotheosis of brute force, of murder by the wholesale. It makes not towns but continents shambles.

The people of this nation know now, as they did not know years ago, how frightful a disaster it would have been had the Senate permitted the signing of a contract whereby we should have underwritten twenty centuries of hate in Europe, generations of imperialism and new decades of armed intervention. The League of Nations was a peril America escaped, but in escaping the League it did not escape a responsibility to assist in the rehabilitation of the Western world after the ravages of war. Am I my brother's keeper? Aye, the white man cannot be half leper and half clean, in this new world of annihilated distances, of airships and of the radio.

We believe in helping Europe. This nation has helped her. Not less than twenty billions of American wealth have been poured into Europe in less than ten years, in direct credits. Only a small part of this has ever been paid back. One reason we have not been able to help Europe more generously is that Europe, unfortunately, was taught in the days just after the war to expect impossible things from the United States. A pipe, Europe dreamed, had been run from an everlasting land of milk and honey into her capitals, and all she had to do was eat, drink and be merry. The American taxpayer, however, believes in helping only those who help themselves. He wonders how many millions annually Germany could save by giving up alcoholic liquors. He is surprised to learn that England pays hundreds of millions to the idle thus subsidizing indolence. He is amazed when told that taxation in the United States is heavier than in France. He reads of the carnivals of debauchery at Deauville and mad gambling in Berlin. Has Europe gone mad?

The thing has gone from bad to worse. The only sober voice in Europe, again and again, has been the voice of England. The rest, too often, has been the noise of an insane asylum. Perhaps men's nerves have been stretched to the breaking point. Some have said that the world has been made an impossible place in which to live. There are groans that never will be silenced and wounds that do not heal. The evil that war does lives after it. The nations have been shell-shocked. They are afraid to disband their armies.

The Administration in Washington is anxious to do something, but it must be a practicable thing. It would be insanity to pipe-line money from the public treasury into the European maw. It would be foolhardy to grant any credits to Europe unless the proceeds were to put Europe back on her feet. Our object is to help Europe work her way out, not to work her way out for her.

There are two great problems in Europe, from the material

viewpoint. One is the settlement of the reparations question and the other is the procurement of necessary capital. It has been suggested that the United States offer its good offices to arbitrate the first question. This would not mean abandonment of the Versailles commitments, but a re-examination by a neutral authority to determine what reparations Germany can actually make and what security against another invasion France can properly demand. The debt owed America is not a matter of dispute. We may give time for its payment; to cancel it would be to ruin, not help, Europe. Repudiation of their just debts may bankrupt a people spiritually.

There are enormous private credits that will naturally flow from the United States to Europe once there is some warranty of lasting peace there. There are tremendous opportunities for profitable investment in Germany and Italy and France and all the other war-stricken nations. Vast credits can be accorded, on business terms, for the distribution of American products abroad. Moreover, the war killed off so many youths that there can readily be found in Europe, under normal conditions, ample work at good pay for all persons. There are markets which can consume more than can be produced. There are years of destruction to be made up abroad. But who is going to work strenuously and who is going to save when the evidences of wealth fluctuate with the tides and pocket change is reckoned in millions? Money has been made ridiculous by deliberate intrigue. That, however, is only a temporary phenomenon. There is mad money because there are mad people. The currencies are fantastic because the conditions in Europe are fantastic.

We believe the American people will go along with the Administration in any sane, deliberate, carefully worked-out plan for lending to Europe our moral assets and such material loans as may be privately advanced. We do not know what the Administration plan will be. It is probably not yet fully worked out. But we do know that Southern interests will be glad to furnish labor to Europeans by supplying them with raw cotton to be paid for out of the sale of the finished products, under a proper system of guarantees. So are our wheat producers willing to let Europe have grain. We want to help Europe to get things, want to help her to get back on her feet.

But shall we strengthen her for another war? Can we be enthusiastic if when we grasp her hand we find a pistol in it? Is it too much to ask that Europe be Christian? Europe cannot get well so long as Europe continues to tear the scab from the healing wound. Europe must look not to the eagles of Caesar but to the cross of Constantine, and in that sign conquer herself.

## POLITICIANS FIGHT SHY OF THE SALES TAX.

**B**ECAUSE some rich men are buying securities the income from which is tax-exempt, there is a vigorous and ponderous demand that the States agree to a Constitutional Amendment depriving them of their right to issue securities that will be free from federal taxation. Cutting off one's nose to spite one's face has never got anybody anywhere. We have never been able to understand why the States, in order moderately to punish some rich men, should punish themselves twice as severely. So long as a State has the ability to raise money independently, it retains in itself some of the sure elements of sovereignty. When the Federal Government obtains the right to tax State securities, the States will be satrapies, not commonwealths.

There is a tax which the rich man cannot avoid—a tax that will fall on him with every certainty. It is a tax.



moreover, that every citizen can determine for himself. He can make it small or large as he wishes. It will take from none more than in accordance with his ability to pay. Automatically it is apportioned to the wealth of every community. In good times it is heavy and in bad times it is light. It almost collects itself, and it will save the country tens of millions in bookkeeping alone. Where it has been scientifically tried, it has been found good. It brings money currently into the public treasury. As a tax it has less faults than any other tax. Among its merits is the fact that it is paid in a number of very small instalments, instead of in lump sums.

It is called the Sales Tax. It is so simple and so good that few politicians are willing to have anything to do with it.

### CO-OPERATIVE MARKETING OF FARM PRODUCTS WOULD BE OF NATIONAL BENEFIT.

ONE of the leaders of the British steel and iron industry, in addressing his stockholders recently, stated that the whole industry, on account of the number and variety of producers, was in a more or less chaotic state, and that the way out, in his opinion, lay in the organization in England of a vast corporation on the lines of the United States Steel Corporation. That had been the American solution, he pointed out, for an exactly similar problem, and the result had been of the greatest benefit not only to the steel industry itself but to the consuming public as well.

The same thought is behind the development in America of the principle of co-operative selling of farm products. The meeting of the agricultural co-operative marketing associations in Washington last week, irrespective of any proposals made there as to farm credits, has turned the attention of the nation to what promises to be one of the most important developments in the economic history of the nation. This movement is of particular importance to the South, for cotton is a commodity that especially lends itself to co-operative handling. It can be stored for long periods without damage or loss, it can be finely graded, and there is no better security for loans.

Ever since the war, cotton has been a distress crop, sold by distress sales. The producer had no say in the fixing of the price. He was told what he would have to sell his product for. It was, in large part, handled by factors and merchants who had no interest in the price received other than that it was enough to enable them to get back their advances and charges. There was what might be called chaos in marketing. What the co-operatives are doing is gradually to acquire facilities for the warehousing of the greater part of the cotton crop, finance it on business terms in bulk and sell it gradually to consumers at a price commensurate with the cost of production, not at the price middlemen offer to pay. They are the medium through which the farmer, like the steel-producer, can acquire a say in the worth of his production. The effect will be not only to stabilize prices for the producer, but to stabilize costs also for the consuming mills, guaranteeing them at the same time deliveries up to sample.

No co-operative movement ever succeeds unless it renders a distinct service to the consumer. Successful co-operative selling organizations invariably insist on quality in their products. They build up trade marks and good will. They compel their members to take all proper precautions in the preparation of goods for market. To illustrate, a certain result of co-operative selling of cotton will be, sooner or later, better baling, less waste and altogether superior handling. Moreover, with scientific distribution, the markets will not be flooded at one time and bare at another, but will be kept

at a fair level the year round. That is not manipulation; it is business sense.

The farmer has been living in a world of integrated industry, while his own industry was getting more and more disintegrated year by year. He has been buying for years from manufacturers whose prices were scientifically determined and scientifically maintained. He bought in an economically controlled market and sold in an uncontrolled market. That was an easy method of committing hari-kari. Co-operative marketing means the establishment of scientific and economic methods through an efficient sales organization. It means that the farmer can meet industrial civilization on equal terms, by applying the methods of that civilization to his own requirements.

It is noteworthy, also, that the co-operative representatives in Washington gave no evidence of radicalism or financial and economic insanity. Their meetings were characterized by a possibly extreme conservatism. They asked for no special privileges of any sort. They did not want them. All they did want were facilities equal to those offered other industries—a fair show and a fighting chance.

The co-operative idea is growing so fast in the South, and the success of practical experiments so far has been so pronounced, that it will be surprising if the major part of the cotton crop is not sold co-operatively next year. If the co-operatives can handle more than 50 per cent of the cotton, they can also demand and get a fair price. That would be of advantage not only to the cotton producers themselves, but to the whole nation. Prosperous farms mean good times and good government.

### HAS THE BOLL WEEVIL PROBLEM BEEN SOLVED?

WE print elsewhere in this issue a report by Mr. J. Swinton Whaley, a practical cotton farmer and expert, on the remarkable results obtained in cotton production in Burke County, Georgia, by the use of the so-called Hill mixture for the control of the boll weevil. Mr. Whaley's report is highly optimistic. He declares that the evidence is convincing and proves that cotton can be profitably raised when the Hill poison is employed. Mr. Hill's experiments have been successful in two successive seasons, under adverse weather conditions. His method will be employed extensively in various sections of the South next summer, and if it measures up to its warranties it will be of incalculable value to the South and the whole world.

### SOUTHERN STATES LEAD IN RAISING PRODUCTS FOR HOME CONSUMPTION.

FARMERS should grow more of the food they consume and buy less of food produced outside their immediate locality is the consensus of opinion of 25,000 farmers in all parts of the country recently questioned on the subject by the Agricultural Department. The survey showed that of the food consumed by farmers and their families 70 per cent is produced locally, and nearly 30 per cent is brought in by railroad. In the judgment of the farmers 79 per cent of the food they consume could be economically produced locally.

In a general way the survey indicated that the more isolated farmers produce more of their foodstuffs than the less isolated, and that the more prosperous sections seem to buy more than the less prosperous. The thought back of the survey was that inasmuch as high freight rates have had a tendency to reduce the prices of products which farmers sell and to increase the prices of the things they buy, they

might economically produce more of their home requirements and thus become less dependent upon the railroads and the outside world.

In comparison with the rest of the country, it will probably be of interest to those who have been unjustly criticizing the South for not producing more foodstuffs to know that the East South Central States including Kentucky, Tennessee, Alabama and Mississippi led in the volume of production for home consumption with 75.2 per cent. The smallest volume of home production is in the New England States with 58.1 per cent.

### A DISTINCTLY AGRICULTURAL CREDIT SYSTEM IS REQUIRED.

**I**T has been cogently urged by some gentlemen associated with the co-operative movement that a new system of agricultural credits is not essential provided the Federal Reserve Act is amended so as to make it operate as was originally intended, or even if, under its present powers, the Federal Reserve Board adopted a more liberal policy. The Board, for instance, might declare eligible for rediscount a great mass of agricultural paper that is now orphaned. Mr. Eugene Meyer, Jr. has pointed out the severe hardship resulting from the non-eligibility of perfectly good paper.

It cannot be doubted, as we have insisted all along, that it is within the authority of the Federal Reserve Board itself, without any additional legislation of any sort, by mere administration, to grant immediately substantial relief at any time it wishes. It could have granted such relief during the period of extreme depression. It had always in its hands the weapon with which to stop sheriffs' sales and give the farmer a fighting chance. Had the gentlemen thus composing the Board been guided by competent advice, prosperity instead of gold would have been warehoused.

Nevertheless, it would be a grave error when Congress is now almost unanimously in favor of agricultural credit legislation, to accept as satisfactory an amendment of the Federal Reserve Act that provided a greater use of the system's facilities for the financing of farm products. It would be unwise because, no matter what the law, it has been demonstrated that a board of seven or eight men, shut up in Washington, might maladminister the Act and hit agriculture body blows in time of greatest stress. A wise man does not get stung twice in the same place. There are no seven or eight men living who are wise enough to have entrusted to them control over virtually the entire credits of the nation.

Moreover, the Federal Reserve System is built up on a theory of commercial credits—the thirty, sixty and ninety-day habit in Great Britain. It does not readily lend itself to the relatively long-term credits required for the financing of farm products. It is a bankers' system and what the farmers need is a farmers' system. Most of the credit bills now before Congress plan for a system based on the principles of money-lending. They ought to be based on principles of money merchandizing, as a distinguished expert expresses it, combined possibly with the insurance principle, the individual borrower paying the premium and the whole industry shouldering any loss. The contingent liability ought not, in fact, to rest on the individual but ought to be a mass risk.

The main thing representatives of the farmers should avoid is a makeshift solution of the credit problem. They want to beware of Trojan horses. They require a distinctly agricultural credit system of their own, just as general commerce already has such a system of its own. That will be best for the farmers and best for the nation.

### WHAT HE MISSED—ARE YOU MISSING IT ALSO?

**W**E certainly have lost lots by not taking the MANUFACTURERS RECORD all along." That is a statement in a letter from Erwin A. Holt of Burlington, N. C., a member of the firm of Lawrence S. Holt & Sons, one of the leading cotton manufacturing concerns in that state. Mr. Holt was so impressed with the editorial in our issue of December 7 on "Moonlight Schools" as "the best editorial on the subject which he has seen" that he asked permission to have a thousand copies reprinted in order that he might send them broadcast to interest others in the facts presented in that editorial.

Every man who fails to read the MANUFACTURERS RECORD is missing the things which Mr. Holt now finds so interesting and valuable. His excuse for not having read it heretofore was that his firm was taking so many papers and periodicals that they failed to add the MANUFACTURERS RECORD to their list. That is the excuse given by others also but it is not a very good excuse for there is no other publication in the country which is doing exactly the same kind of work as the MANUFACTURERS RECORD.

### BEWARE THE CHEAP GERMAN PRODUCT!

**A**N amazing illustration of the length to which unscrupulous German tradesmen will go in their efforts to supplant American goods with those of German manufacture is vouched for by the Society for Electrical Development, Inc., of New York. Says this organization:

"Hundreds of thousands of defective electric irons of German manufacture are being thrown on our markets through every port of entry. One shipment of 180,000 landed recently in New York, another large consignment at a Texan port and so on along our Atlantic Seaboard. No tariff wall less than absolute prohibition can keep these miserable devices from leaving a trail of arson and possible death in their wake, for they can be, and doubtless will be, sold by the ignorant and unscrupulous at a fraction of the cost of a dependable electric iron. There is no question, either, that many unsuspecting purchasers will be taken in, for to the uninitiated almost all irons look alike.

"The irons are intended to retail at about a dollar, and are not even provided with stands. They are flimsily constructed and poorly put together, their heating elements usually breaking down after a few minutes' of operation. This collapse of the iron might constitute a protection, but it is quite conceivable that the heating elements might be replaced by repair parts of American standard, in which case the irons would be even more dangerous. For instance, the flexible cords for attaching the irons to an electric outlet are miserable contraptions. They are of No. 32 gauge, whereas No. 18 gauge is the minimum permitted in this country. Exactly what this signifies is best indicated by a comparison of the resistance of the two cords to failure through fusing. The German cord will fuse, short circuit and probably start an incipient fire when carrying less than 9 per cent of the current which would cause fusing of the poorest American cord. Furthermore, the insulation of the German cords is inferior and will not stand much usage.

"Even high-grade flexible cords—cords meeting American minimum requirements—are not all that could be desired and if abused will fail. Consider then the dangers of the German cords, with inferior insulation and bound to collapse when handling one-tenth the current. Adding to the perils of the German irons, if that is possible, is the fact that the attaching plug is made of wood, a type discarded long ago in the United States.

"Such dastardly work as is here described should be arrested at once. No tariff which could be devised would meet such a situation. Some means of effectively preventing the importation of foreign trash of this kind should be found and found at once."

# Hill Method of Boll Weevil Control Makes Pre-Weevil Cotton Production Possible, Says Expert.

EPOCH-MAKING DISCOVERY, OF IMMEASURABLE BENEFIT TO THE SOUTH AND THE ENTIRE WORLD, BELIEVED TO HAVE BEEN MADE BY GEORGIA COTTON FARMER.

[Owing to the highly enthusiastic reports reaching this newspaper of the excellent results obtained in Burke County, Georgia, from the poisoning of the boll weevil by the Hill method, an account of which we carried in our issue of last week, we have caused an independent survey to be made on our account. We sent Mr. J. Swinton Whaley, of Edisto Island, South Carolina, to go personally over the ground and give us an unprejudiced report, from the viewpoint of the practical grower. Mr. Whaley is a recognized cotton expert. He has examined for large financial interests the possibilities of cotton production in Santo Domingo and the West Indies. He has made a personal study of all methods heretofore used for the control of the boll weevil and, in connection with the Government, has undertaken extensive experiments on his own plantations. His report, therefore, has exceptional value as coming from an independent observer, whose natural inclination would be to view with suspicion any claims for a perfected weevil-control method, unless the evidences of its success were convincing. His verdict in favor of the remedy, taken in conjunction with the enthusiastic report of President Wannamaker of the American Cotton Association, indicates that an epoch-making discovery has probably been made. Its importance to the South and to the whole world, which has been threatened with a cotton famine, is manifest—Editor Manufacturers Record.]

By J. SWINTON WHALEY.

I have gone over all those parts of Burke county where any cotton was treated by the Hill method. Mr. Hill, the discoverer, went with me. The special dispatches in the MANUFACTURERS RECORD of last week and Mr. Wannamaker's article had led me to expect much, but I was not prepared to find such conclusive evidences of success as I did find. A boll weevil remedy that permits the remunerative production of cotton under ordinary conditions has unquestionably been found.

At this time of the year, of course, I found most of the fields with the stalks cut and being plowed up. Nevertheless, it was quite easy for a practical farmer to see that the crops made last year were quite as good as those made before the advent of the weevil. Wherever the Hill method had been employed, without exception, weevil damage had been reduced to a minimum and practically done away with altogether.

I visited a farm where the owner, although he possessed two of the most approved dusting machines, had abandoned them entirely. I asked one of the hands why the dusting machines had not been continued in use. "They do not stop the weevil, but the molasses does," was his reply. That was the universal testimony of the negroes, and my experience is that the negro hand of average intelligence is a little closer to weevil infection than anybody else. He is wary of new devices and methods and never admits that the weevil is under control unless he actually sees the insects dying and dead.

Another farmer explained to me that in 1921 he had dusted with calcium arsenate, under Government supervision, at an expense of over \$6 per acre for the arsenate alone. On 286 acres he made 101 bales of cotton. But in 1922, on the same fields and with the same acreage, he used the Hill mixture instead of dusting and he made 160 bales, an increase of 60 per cent. Not only that, but his total poisoning expense was reduced to \$2.25 per acre. He had a carload of dust guns in storage and offered to sell them to me at any price, "just to get rid of them." They are obsolete equipment, was his verdict, now that the Hill method is available.

I went to some of the smaller farms, where use of a control method might be expected to be a little less efficient than on the larger places. There was a field of 21 acres on which three bales of cotton had been made in 1921, no poison at all having been used. This year 31 acres were planted. There were five applications of Hill's mixture, and the expense was \$2.50 per acre gross. The yield was 28 bales. That sounds like old time production, before the advent of the weevil, but it is the kind of thing that has happened over and over again in Burke county, when the Hill mixture has been used.

Mr. Hill was anxious that I go with him to a little farm to see "a dear, happy old lady." I did not wonder when I heard what she said to him, but was a little envious. "But for you and your mixture," she said, "we would have lost our home." In 1921 this lady had made only three bales of cotton on thirteen acres of land. This year she made nine bales on 10 acres. There are a lot of Christmas presents in that sort of production. As a matter of fact, the lady's husband had violently opposed the use of the Hill mixture. She had to go to Mr. Hill and secure a little of the remedy herself. Her husband only became a convert when dead weevils offered incontrovertible evidence of the efficiency of the remedy.

I could keep on indefinitely. The renter, the share-cropper, both white and colored, the planter, the business man and the banker were all equally enthusiastic. I found people who since the advent of the weevil have been disconsolate and depressed now once more thrilled with hope and the possibility and probability of returning prosperity. Men who had been planning to abandon cotton production altogether are now making arrangements to buy more mules and plows and plant again on the same scale as before the weevil appeared. They expect Hill's mixture to put cotton back on the map. Indeed, this air of hopefulness on the part of the farmer is only equalled by the corresponding attitude of helpfulness on the part of merchants and brokers, who talk of resuming advances on the old scale and financing cotton hereafter with confidence. Credit has returned in Burke county. But the merchants and farmers with one accord also emphasize one other fact and that is the lesson of producing at home things which formerly were needlessly imported, at high cost, from elsewhere. These Burke county people who used the Hill method have made fine cotton crops this year, but in the hard school of experience they have learned that the "eating" crop is just as important in farm economics as the money crop.

The principle of the Hill mixture is exceedingly simple. There is nothing complicated about it. The most ignorant farmer in the South can use it successfully. It takes but a few words to describe it. It was recognized that the boll weevil problem would be solved if something could be found that would attract the weevil as fly-paper attracts the fly. That magnet is what Mr. Hill apparently has discovered. There are three elements to the mixture—molasses as a binder, arsenate as a poison, and a third (secret) element which attracts the weevil. The testimony is cumulative that when a small quantity of the mixture is put on the top of a cotton plant the weevil will hunt it out, find it and eat it.



It may be the odor or improbably the taste, but whatever it is it draws the weevil.

It is true that the mixture apparently is to be marketed commercially and the element that gives it its efficiency kept secret, but the cost is relatively so small, in any event, that the South is hardly likely to criticise the discoverer if he profits from his work. South Carolina gave a gratuity to the inventor of the cotton gin, and a boll weevil remedy is not a less important economic factor.

There is no doubt in the minds of these people as to the efficacy of the method. It is a great satisfaction to be justified in one's faith that ultimately a remedy for one of the greatest evils oppressing mankind would be found. I came, skeptical; I saw, and I was convinced.

I realize, of course, that further experiments will be necessary before it can be said positively that this remedy will work in all climates and in all conditions; that it will restore the great sea island cotton industry in Florida, Georgia and South Carolina, and enable the South again adequately to supply the full world requirements for cotton, but my own conclusion is that at last a real remedy is available and that it means a new era for the South.

### Activity and Prosperity in Southwest Louisiana.

Lake Charles, La.—This city has begun a million dollar street paving and sidewalk construction program and is showing marked activity in a number of different directions. The 1922-23 fur crop of Calcasieu parish and Cameron has been estimated at from \$3,000,000 to \$5,000,000. Plans are being perfected for enlarging the small dairy and creamery business started sometime ago in Lake Charles. The completion of the ship channel to the sea assured through the voting of the bond issue will mean cheaper transportation for the products of farm and factory. The possibilities for the development of the old industry in this part of the state have been strengthened by the assurance of the deep water channel and there is now much activity in oil drilling.

Southwest Louisiana through diversification of industry, business and agriculture abounds with prosperity. Millions of dollars have been brought into this section through full-time operation of lumber mills employing thousands of persons. Farmers grew more diversified crops this year than ever before and as a result received good incomes. A normal rice crop has been harvested and it was grown with less hired help and expense than any time previous. Indications are that the fruit, truck and strawberry acreage for Calcasieu for the winter of 1922 and spring of 1923 will net an income of \$200,000.

### Improvements and Extensions to Paper Plant.

Bastrop, La.—Extensive additions and improvements are being made to the plant of the Bastrop Pulp & Paper Co. Erection of a new power house is under way and two 800 horsepower natural gas engines will be installed. A high speed kraft paper machine with a capacity of 50 tons daily will be installed. The plant has been operating for about a year, supplying mills with pulp to be manufactured into kraft paper and box board.

### Union Interurban Station Planned at Louisville.

Louisville, Ky.—Work on a new Union Interurban Station in the central part of the city will be started within the next few months, according to J. P. Barnes, president of the Louisville Railway Co. The structure will be 200 by 500 feet and two or three stories high. The lower floor will contain stores, waiting-rooms and a large car shed. There will be office space on the other floors.

### Work Actively Under Way on New Finishing Plants of American Rolling Mill Co.

Ashland, Ky.—“We are proposing to furnish new finishing capacity at Ashland that will give us from 225,000 to 250,000 tons per year of sheets and light plate,” states George M. Verity, president of the American Rolling Mill Co. of Middletown, Ohio. The improvements will be made at the property of the Ashland Iron & Mining Co. and the Ashland Coal & Iron Railway Co., acquired in December, 1921, through the payment of \$1,000,000 of common stock of the American Rolling Mill Co. and assuming an indebtedness of approximately \$6,000,000.

The plan includes designing and constructing a finishing works at a cost of \$6,000,000 to convert the entire steel making capacity of the plant into a special high grade product. This new unit will give the company approximately 20,000 tons of finished products monthly which will amount to a doubling of the company's business as 22,000 tons are produced monthly at Middletown and Zanesville. The Ashland location provides coal, natural gas and cheap electric power close at hand. Coke and pig iron are manufactured here and molten metal will be used direct from the blast furnace to the steel works, giving a big saving in cost of fuel and transportation. The improvements will give a complete and independent plant for the production of coal, coke and pig iron and for the manufacture of high finished special analysis sheet. It will also have the advantage of cheap river transportation. Plans include shipping direct by an all-water route from Ashland to the Pacific Coast.

Work on the new finishing mills is now actively under way and if there are no unexpected delays a part of the works will be ready for operation by the middle of next summer.

### Completing Hydro-Electric Plant for Camden—Activity in Building and Industry.

Camden, S. C.—An abundant supply of hydro-electric power is assured this city next year with the completion of the 100,000 horse-power plant of the Wateree Power Co., seven miles from this city on the Wateree River. This will permit expansion of factories now running and encourage new plants to locate here.

A survey of industrial conditions shows all plants operating at capacity with a ready market for their products. Among bankers, business men and builders an optimistic spirit prevails and the outlook is for further improvement and expansion generally.

Keeping pace with the industrial and business development are the improvements to municipal facilities. Two main thoroughfares are being paved and surfaced with asphalt. The present program calls for one and a half miles of new streets and this will be doubled in the near future. A few months ago a \$160,000 grammar school was completed and opened. Extensions to water and sewer lines are going forward with the growth of the community.

B. G. Sanders, secretary of the Chamber of Commerce, is seeking to attract new industries to the city and to this end reports the hearty co-operation of the business people.

### Completing \$1,000,000 Building Program.

Harrisonburg, Va.—The building program in this city for 1922 involves the expenditure of \$1,000,000. To provide increased water and electric power and light facilities the city has spent over \$200,000. With the completion of the \$85,000 steam auxiliary power plant next April the city's power resources will be practically doubled. Four commercial structures costing \$200,000 will be completed and are now under way. More than 100 residences have been finished.

# Rapid Development at Winston-Salem in Education, Commerce and Industry.

A PROSPEROUS COMMUNITY, SPENDING \$3,000,000 ON SCHOOLS, AND OTHER GREAT SUMS ON HOSPITALS, PARKS AND NEW BUSINESS STRUCTURES.

By CARROLL E. WILLIAMS.

Winston-Salem, N. C., December 18.

Industrially and commercially this city is developing at a rate that is really astonishing. The big manufacturing establishments are operating at capacity and finding a ready market for whatever they can produce by working full and overtime. Many factories are making additions and improvements to care for the volume of business offered, and this is not limited to a specific industry but applies to all the various lines.

Typical of the municipal development which is keeping pace with the growth of industry and business, and residential construction, is the expenditure of \$3,000,000 for the city's educational institutions. Large sums also are being spent for hospitals, churches, and similar public and semi-public work. Many acres of farm land are under development, for building sites and throughout the city scores of modern houses are now going up and a large volume of work of this character is in sight for next year. Besides the houses under construction by individuals, the manufacturing establishments are erecting a considerable number of dwellings for additional operatives to permit overtime work and night shifts.

The Washington, Mayo, Arista, and South Side textile mills are all operating at full time. About 2000 employes are engaged in these four mills. The P. H. Hanes Knitting Mills Company and similar plants are operating with full force and view the future optimistically.

In this general vicinity the Southern Power Company is expending about \$2,000,000 in construction of new high voltage steel tower transmission lines, which will insure adequate power at reasonable rates for the enlarging industries.

The Forsyth Furniture Lines, Inc. engaged in the production of miscellaneous furniture are now operating five plants employing nearly 1000 men. Chairs, bedroom and dining room furniture are the principal products and the company is sold through January on its entire output. Charles Sievers, president, states that prices are satisfactory, that they are slightly higher than a year ago, and the outlook for the next six months at least is very encouraging. Improvements are being made to the buildings and equipment. The company is a recent consolidation of the Forsyth Chair Company, the Forsyth Dining Room Furniture Company and the Forsyth Manufacturing Company.

The Fogle Furniture Company is producing fibre furniture. The Huntley Furniture Company is working a full force with a demand for its products coming from all parts of the country. It recently received an order to supply the furniture complete for a \$1,000,000 Southern hotel.

Watt Hutchuson, president of the J. E. Shelton Box & Lumber Company, reports conditions 15 per cent better than a year ago and prospects are for steady improvement. The local demand is especially good for box materials, and difficulties are experienced in providing the necessary supplies for residential and other building work.

The Winston-Salem Chair Company began operation a few weeks ago and is producing bedroom and dining room chairs to match suites. The plant consists of two main buildings, a manufacturing unit 50x220 feet, and a storage shed 50x108 feet, each two stories high. The boiler house has a capacity of 150 horse power. There are two Moore dry kilns. The buildings are of fireproof construction and fitted with auto-

matic sprinklers. Especial attention has been paid to lay-out and to securing modern equipment to reduce handling and manufacturing costs to a minimum. Capacity operations will be under way early this month with 80 persons employed. The output will be about 600 chairs daily. Orders already in hand insure operation at the present rate to March 1. The new plant is located on a site of five acres served by the Winston-Salem Southbound Railway.

The Southern Iron & Steel Corporation, R. G. Parlier, secretary and treasurer, reports business 500 per cent better than last year. It is producing and selling a tobacco curing furnace of improved design in North and South Carolina, Georgia, Virginia, Tennessee, Kentucky and Pennsylvania. Orders have been received from many foreign countries.

Dwelling construction is maintaining an even level according to S. C. Ripple, general manager of the Home Builders Company. He believes that many people will award contracts this winter in order to have the work under way early next spring. The sale of real estate in this section has increased rapidly during recent months, says Mr. Ripple who states that many big farms are being developed as real estate sub-divisions, this permitting an increasing number of people to erect their own homes.

According to Mr. Maslin of the Union Guano Company and the Virginia-Carolina Chemical Company, conditions agriculturally and commercially in North Carolina are excellent. "I believe that we have felt the depression less than in any other section of the country and the recent increase in the price of cotton has been of inestimable help to the whole South. Collections are better and improving slowly. Many bills contracted in 1920 and 1921 are now being paid."

Robert H. Woods, Jr. of the Southern Public Utilities Company states that there has been a steady growth in the demand for electric power in recent years. During 1922 it amounted to 15 per cent locally and a corresponding increase is anticipated next year.

"Conditions are improving faster every day," declares Frank Bailey, vice-president of Bailey Brothers, Inc., tobacco manufacturers, "and purchases are increasing steadily in the cotton producing area. The wholesale grocers report increased buying, better collections, and a bright outlook for the future."

One-third more tonnage has been handled this year than during the same period last year by the Brown, Rogers Company, hardware dealers, according to W. N. Dixon, and both retail and wholesale buying have been stimulated greatly during recent weeks.

J. D. Spinks, civil engineer, specializing in municipal work, reports a big volume of business in hand representing a 300 per cent increase over that offered in the same line last year. L. B. Edwards, contractor-engineer, has a large amount of work now under way and in sight.

R. E. Dalton, of Dalton Brothers, hardware dealers, says the increase in business in the last few months has been especially gratifying. Much of this he attributes to the good tobacco crop and the high prices prevailing. Sales for the building trades are almost double the 1921 figures, according to J. A. Ward of the Tucker-Ward Hardware Company.

Discussing particularly the industrial conditions in Wins-

ton-Salem and vicinity T. S. Maslin, president of the Merchants Bank & Trust Company, says:

"Statistics as a rule are dry reading for most people, and I will not attempt to give figures, but merely bring to your attention the fact that we are the largest manufacturers of tobacco products in the world, which is shown by the Internal Revenue reports, evidenced by the fact that we pay to the Internal Revenue Department practically \$1,000,000 a year.

"We have the distinction of being the only inland port of entry in the United States and ranking seventh in volume of receipts.

"We are a manufacturing city with factories turning out ninety-three different products, and we are next to the city of Baltimore as to value of manufactured products in the South, ranking ahead of such cities as New Orleans, Birmingham, Atlanta and Richmond.

"With this character of business and its diversification, we were probably less affected by depressed business conditions of 1921 than most any city in the South. Our working population, which is large, were employed most of the time during the depression, and there was never any evidence of suffering among our people. Business during this year has been good in all manufactures, which has been reflected in a large measure through the increased business of the banks, and I feel that conditions will improve more and more for some time to come."

An increase of nearly fifty per cent in deposits in recent months is reported by T. J. Byerly, president of the Farmers National Bank & Trust Company. These now total about \$1,500,000 and an improvement of 25 per cent in general business conditions is reflected in the bank, states Mr. Byerly. The growth has been steady during the past few years and the officers are well pleased with the outlook. According to Frank H. Fries, president of the Wachovia Bank & Trust Company, deposits have increased at this institution to the extent of more than \$4,500,000 in the past year and since it has branches scattered in different sections of the state this may be taken as a true barometer of improved conditions throughout North Carolina.

A number of new office buildings and modern business houses and stores have been completed in Winston-Salem recently and others are under construction.

In the western section of the city P. H. Hanes, of the P. H. Hanes Knitting Mills Company, has given to the municipality a tract of about 60 acres of land located in the heart of the fast growing residential section. About \$100,000 will be expended initially by the city in making improvements and ultimately a much larger sum will be utilized. Not only will this park be available for children living in the neighborhood but it will serve as a playground and athletic field for the pupils of the \$750,000 high school building now nearing completion and for other schools to be erected in the vicinity later. New streets are being laid, trolley lines extended and sewer and water lines placed.

Upon a high hill overlooking the park and the residential development the new high school is being erected, also the R. J. Reynolds Memorial Auditorium. These two buildings with the cost of the grounds will involve an expenditure of close to \$1,500,000. The site for the auditorium was provided by Mrs. J. Edward Johnston, and consists of about 28 acres aside from the park given by Mr. Hanes. The two structures have been located in such a manner that a third building for academic arts, may be built in the future to complete the group. A gymnasium and a stadium are planned for the park. A driveway 60 feet wide with grass plots, sidewalks and shade trees will be extended through the section and into Buena Vista adjoining. An underpass has already been completed beneath the railroad tracks. The auditorium will

have a seating capacity of 2500 persons, and a \$50,000 pipe organ will be one of the features.

R. H. Latham of the city school board, is authority for the statement that \$3,000,000 is being expended in new grounds, equipment and buildings. A feature of the school development in the city is the acquisition of sufficient lands for each of the established schools and for the new ones to be erected. Already over two hundred acres of land have been secured for the various schools and the smallest playground will be of ten acres. Money for this program is provided by bond issues and special funds for the purpose. Sites have been purchased for nine schools and land will be bought soon for three other structures. An addition to a colored high school building has been completed at a cost of \$100,000. Work is under way on the following: R. G. Reynolds School, \$700,000; Skyland School, \$115,000; New North School, \$180,000; and Fourteenth Street Colored Grade and Junior High School, \$120,000. Before the first of the year the new Central School and the new Southside School will be contracted for at a cost of about \$150,000. Plans are under way for a new school in the west end and for a colored school on Oak Street. The schools have all been laid out on the zoning plan to serve sections in a radius of one-half, one, and one and one-half miles from the center of the city.

Large sums are being expended in hospital development and improvements in and about the city. The municipal hospital is to be improved at a cost of \$400,000. This will give it a capacity of 220 beds with four operating rooms, and a completely equipped wing for colored patients. About \$250,000 will be expended at the State Baptist Hospital, which has secured a fine tract of land. Aside from the funds available from the general hospital source about \$140,000 was subscribed locally. Funds are in hand for erection of a hospital at the Childrens Home in this city.

A city plan commission composed of progressive citizens and officials is carrying out from time to time features of the scheme for city development recommended by Morris Knowles, Inc. of Pittsburgh, Pa.

Extensive improvements and additions are being made to the manufacturing facilities of the R. J. Reynolds Tobacco Co. as well as to housing facilities for employees.

T. W. Allen, secretary and assistant treasurer of the P. H. Hanes Knitting Mills Company, gives a general resume of conditions this year and a forecast for 1923 as follows:

"During the fall of 1921 industries generally had hard sledding. This condition carried over into the spring of 1922, and began to improve with June. For our firm 1922 is a fairly satisfactory year in the way of profits and volume of output. We are working full time and employing between 1000 and 1200 persons. We are sold up about 60 days ahead on winter goods and have orders which will insure capacity operations until well into the spring of next year.

"Prices generally are too low based upon present costs of raw materials, especially in view of recent advances, and will have to be increased. We look for good business in 1923. Personally I believe that successful businesses will operate on a big volume, with close margin of profit and quick turnover. High prices for cotton may cause farmers to plant too much acreage which may result either in a big crop or make it impossible to cultivate intensively under boll weevil conditions and therefore make for a poor crop. Europe, especially England, will no doubt come into the market for a fair amount of cotton regardless of cost. A certain amount of cotton must be purchased and since there is no cheap substitute and it is the best thing in sight it will be bought even though something else has to be done without.

"The price cutting evil is very demoralizing to American business today. It materially lessens the interest of that element that wants to do business at a fair profit. Possibly this evil could best be avoided by having a Federal Trade Commission set fair prices after they had accurate information from manufacturers regarding cost of production. Under such a plan the manufacturer would sell to the distributor at a reasonable price and profit and the distributor would likewise sell to the retailer on the same basis."



## Our Flag Menaced on Seas of Commerce.

By RICHARD H. EDMONDS, in American Industries.

For more than a third of a century the MANUFACTURERS RECORD has constantly advocated subsidies sufficient to develop our merchant marine, as one of the most essential factors in national prosperity and in national safety in time of war. It so happened that in the last war our Allies had large merchant fleets, or otherwise we would have been able to accomplish very little.

It seems inconceivable that so many of our American people do not realize the supreme necessity of building a merchant marine and maintaining it for the advancement of our business interests and the safety of our country. A subsidy to American ships is not a bonus or profit paid into the treasuries of their owners, but is the price that we must pay for the maintenance of laws which make the cost of running an American ship very much heavier than the cost of operating ships under other flags.

Nearly thirty years ago I attended a meeting of Southern cotton manufacturers composed of some five or six hundred men, the very foremost at that day in the development of the industrial interests of the South. At that meeting Mr. D. A. Tompkins, of Charlotte, one of the most farseeing political economists that the South has ever produced, and who had then built, or as engineer planned, more than one-half of the cotton seed oil mills in the South, made an address strongly favoring a subsidy to American ships. His speech was enthusiastically received, and his resolution on the subject unanimously adopted. That was the spirit which was abroad among the leading business men of the South at that time, and I believe that it is a spirit which still lives among very many of the foremost men of that section. The fact that there is a strong and determined spirit among Southern leaders in behalf of the things which make for national development, such as a ship subsidy and a protective tariff, was strongly indicated in the activities of the Southern Protective Tariff Association, composed of bankers, manufacturers, farmers and others.

Thus, while the South, long handicapped by free trade theories due to politics, is turning from these false idols, it is turning at the same time to a recognition of one of the points made in Mr. Tompkins' speech—that the economic policies which are beneficial to the North and West are of equal benefit to the South. "There is no longer any reason why the South," said he, "should regard its economic policies as in any way different from the policies which would be beneficial to Massachusetts or other purely industrial states, for" said he, "the industrial and agricultural interests of the South need exactly the same economic policies which have given prosperity to other sections."

Without national financial aid it would have been impossible for this country to have had the benefit, after the Civil War, of the construction of our transcontinental railways, which by opening up the West and connecting the Atlantic with the Pacific, enormously enhanced the prosperity of the whole country, and united it in closer national bonds than would otherwise have been possible. The same spirit which dared to put back of these railroad enterprises the power of the national government, must now be put into extending these national highways across the oceans of the world. In effect, the steamship line is merely an extension of our railway lines. We cannot develop our foreign commerce profitably or to as large an extent as would otherwise be the case, without doing it under our own flag. The American business man when visiting other countries for the purpose of increasing his trade, can do so with far greater influence back of him when he sails under an American flag. So long as our flag did not fly in the ports of the world every shipper

from this country was handicapped, and every traveler felt that though he represented the greatest nation on earth, he could not travel beneath his own flag. Every American flag that flies on the seas or visits the ports of the world is a tremendous factor in increasing the respect of other nations for the trade possibilities of this country, and as an advertisement pure and simple it is worth more by far than the estimated cost of the bonus.

We cannot possibly run our ships in competition with foreign ships without a bonus or subsidy unless we put our ships on the same level as to the number of employes and the rate of wages paid. That is impossible. We cannot and should not seek to compete in low wages with the ships of many foreign countries, and unless we do so or unless we protect our ships by subsidy, the American flag on merchant ships will be practically driven from the seas, a disaster too great to contemplate with any degree of equanimity.

### Copying American Designs Abroad.

Commerce Reports for December, issued by the Bureau of Foreign and Domestic Commerce, warns American manufacturers of the growing tendency abroad to reproduce American machine products, and calls attention to the fact that:

The growing practice of reproducing American machinery abroad at reduced cost by the use of inferior materials and workmanship must be recognized by American manufacturers. Designs are secured by clever practices. Successful copying can be prevented by keeping in mind the limitations of foreign producers and by following a constructive sales policy. Manufacturers will find it advantageous to give legal protection to their interests abroad by securing foreign patent rights or by properly registering trade-marks.

Builders all over the world do copy designs, and American machinery manufacturers are warned to protect their interests in these matters. Many tricks are used in order to secure drawings, but these can be discovered and circumvented. One very common method is to issue an invitation to submit prices, said proposal to be accompanied by detailed working drawings. In such cases an experienced manufacturer will submit outline drawings, including the principal dimensions, but not showing matters of detail.

Foreign manufacturers copy American machinery because it is good, and our own builders can prevent successful copying if they will bear in mind the peculiar disabilities of these foreign shops. One of the most obvious of these is in the selection of materials. The American market is rich in the variety of iron, steel, and other building materials available. No other manufacturing country has equal supplies of steels of varying carbon content or of the special alloys. The foreign mechanics cannot distinguish these grades by mere inspection, and usually laboratory methods are impracticable. It is therefore suggested that manufacturers be careful not to divulge the specifications of the materials used, the heat treatment, and other processes applied, beyond the merest generalities. On the other hand, it is often good salesmanship to allow it to be known that special alloy steels, etc., are used, and that particular care in the selection of materials is necessary and is practiced.

### Motor Vehicle Production for Eleven Months Exceeds Record Output of 1920.

Motor vehicle production reported by the National Automobile Chamber of Commerce shows the total output for 11 months of this year to be 2,344,000. This exceeds the record full year's business of 1920 which reached the mark of 2,205,000.

November output of 232,000 cars and trucks was within 5 per cent of October, and was twice the volume of the same month last year. In 1921 November business was 26 per cent under October.

## A New Industry—A North American Tea from the Coast of South Carolina.

By N. L. WILLET, Augusta, Ga.

The South Carolina coast, that wonderful mother that has given to the United States its indigo, its rice and its short and long staple cottons, has just inaugurated a new industry. The quality of the product, and the quite evident place or need for it and the abundance of raw material are such in my opinion that this new industry and its promotion stand as a challenge to the financial and commercial geniuses of this country. To them it may be, indeed, a golden opportunity, for in the view of the writer the industry carries a commercial possibility comparable to what would come to pass if the industry of either coffee or tea could be profitably set up and commercialized in this country.

Neither we people of North America nor the people of Europe realize that South America makes and uses vast amounts of a third invigorating, stimulating caffeine drink, (analogous to coffee and tea), and called Yerba Mate. It is made from the leaves of the *Ilex Paraguayensis*, one of the two (only) caffeine bearing holly trees. Mate is drunk in prodigious quantities in Argentina, Chile, Uruguay, Paraguay, Brazil and in the South American states near Panama. Argentina alone, with her ten million inhabitants, drinks annually one hundred and fifty million pounds of Mate.

From Charleston to Savannah, (the plant's best habitat), indigenous, wild, and in great profusion is found a big bush holly containing caffeine called *Ilex Cassene* and locally called Christmas Berry. The tree itself is a beautiful ornamental broad leaf evergreen, making fine specimen trees, growing in clumps fifteen feet high, and making strong hedges analogous to privet and which can be cut back three times per annum and making too the best of all of our American windbreaks, growing sometimes for the trucker twenty-five feet high, fifteen feet thick and literally covered in December each year with holly berries, the bushes being as red as they are green.

*Ilex Cassene* is practically the same as the South American holly and from this South Atlantic Cassene tree the coast Indians some four hundred years ago made and drank an invigorating drink which they called and which is known today on the coast as Yaupon. It is practically the same as Yerba Mate. Our early south coast settlers followed the Indians in the use of Yaupon.

The Plant Division of the United States Department of Agriculture a year ago sent its tea expert, Doctor George F. Mitchell of Mt. Pleasant, S. C., near Charleston, who has spent much time on the tea plantations of India, China and Japan, to do a research work on the Cassene tree. Doctor Mitchell secured his leaves by trimming the sides of large Cassene windbreaks owned by a native trucker, Mr. A. Jouannet. Without doubt these rows of Cassene trees, some twenty-five feet high and fifteen feet broad, each row being thousands of yards long, are the finest exhibits of windbreaks in this country. Doctor Mitchell stripped off the leaves from the cut branches by steaming them and rigged up machinery for doing all of the other processes of drying and sorting and of oxidation and enzyme work. His machinery is capable of turning out five hundred pounds of tea a day. The whole appropriation by the government was only \$5000. Doctor Mitchell will continue his research work in 1923, inventing and using still larger machinery.

This brand of tea is called Cassina; is sent out in one-half and one pound tins. One can buy it either black, green or mixed. Six thousand pounds of it are now ready for the market. Some of it is going to South America in competition with Mate. A cup of Cassina contains more caffeine than a cup of coffee and somewhat less than a cup of tea but it contains none of the objectionable tannin that obtains in tea.

The Cassina label is attractive. It shows a branch of the tree with its red berries and green leaves all in colors. It makes an appropriate Christmas present and the Agricultural Department in order to aid in the promotion of this industry hopes that a host of people will send thirty or sixty cents to Mr. Jouannet who will postpay one-half or one pound of tea to any address. The label bears the name and address of A. Jouannet, Mt. Pleasant, S. C. Mr. Jouannet has been aiding the government in this work and will continue it on a larger scale for he expects this winter to set out a seventy-five acre plantation of *Ilex Cassene*. The plant puts out lateral roots in all directions and shoots come up from the roots and these are used for transplanting. An acre in five year old Cassene trees should produce each year a thousand pounds of Cassina. I learn that down on Edisto Island, S. C., Cassina will also be made.

Probably the black Cassina makes the best tea and a can of it looks and tastes and smells for all the world like English breakfast tea. Use one heaping teaspoonful of Cassina for one cup of tea, boiling three minutes. Cassina has also been made into a carbonated, richly foaming, highly palatable soda water and bottled goods drink and for which alone there is certainly a great future. It is only through Doctor Mitchell's genius in discovering new curing and manufacturing processes that Cassina is now to be put on the market as a new industry.

The Cassene plant grows four to five feet a year. Cassina is not patented. The drink is a pronounced diuretic and a mild aperient and as a drink it is said to be superior to South American Mate.

I asked recently a half a dozen friends to test out Cassina products. They reported that black Cassina hot is the equal of and undistinguishable from English breakfast tea; that cold iced Cassina with lemon is the equivalent of and perhaps better than the usual iced tea, and that Cassina in rock candy syrup and carbonated is the best bottled goods drink they had ever tasted.

The future of this industry, whose merits have been so definitely proven by our government experts, now rests in the hands of our people.

A Florida Indian maiden some centuries ago gave storm wrecked Ponce de Leon a drink of Yaupon as being the best reviving tonic known by her tribe. The wonder is how these Indians and early settlers discovered these qualities in *Ilex Cassene*. The Indians and the early settlers certainly point a way for these latter days. What would it not mean if we could really set up an industry on the Carolina coast rivaling in importance the Mate industry of South America and which would give us a North American tea and which would decrease economically by that much the importation of Java coffee and Chinese tea!

### Valuable Business Bulletin.

The Department of Commerce, Bureau of the Census, Washington, D. C., Wm. M. Steuart, Director, is issuing a monthly bulletin entitled "Survey of Current Business," which contains current statistics with regard to industrial, commercial and financial movements that are supplemented by summary text and graphic charts concerning various lines of business during the previous month. For each line of business, if reliable figures are available, current information is given as to production, consumption, stocks, imports, exports, prices, sales, shipments, etc., the aim being to give a concise picture of each industry and of business as a whole as recorded by actual facts.

# Who Was Responsible for World Business Chaos?

VIEWS OF A TEXAS BUSINESS MAN ON THE SUBJECT.

[Mr. Geo. W. Armstrong the author of the following letter is a leading iron and steel manufacturer of Fort Worth, Tex., the owner or lessee of fifteen or twenty cotton plantations and a large stock raiser. He is also the author of a book entitled "The Crime of '20" in which he has detailed the history of the whole deflation campaign now almost universally recognized as responsible for the breakdown of the world's business and the present chaotic business conditions in Europe.

In 1917 the Manufacturers Record took the ground that if at the close of the war the international bankers and the Reserve Board should attempt drastic deflation it would bring on world business chaos. Over and over again we warned the world against such a deflation policy and every prediction on that point from 1917 when we first stated the case has been more than fulfilled. In view of the supreme importance of our financial methods to every business interest, to agriculture, to manufactures, to commerce and to trade and eventually to our whole banking system every man should seek all possible light upon the problems involved.—Editor Manufacturers Record.]

Fort Worth, Texas, Dec. 12.

Editor Manufacturers Record:

Will you permit me to suggest that you attach entirely too much importance to W. P. G. Harding and his responsibility for deflation. He did not decree deflation; he was but the servant, the mouthpiece of the deflationists. If Miller or Hamlin or Platt or Warburg or any member of the Federal Advisory Council had been Governor of the system, the result would have been the same.

The record shows that the Federal Advisory Council ordered the deflation program and thereby inflicted this great calamity upon our country and the world. The following were the members of the Federal Advisory Council on May 18, 1920, when deflation was decreed:

Philip Stockton, president Old Colony Trust Co., Boston.  
A. B. Hepburn, chairman advisory board, Chase National Bank, New York.

Levi L. Rue, president Philadelphia National Bank, Philadelphia.

W. S. Rowe, president First National Bank, Cincinnati.

J. G. Brown, president Citizens National Bank, Raleigh, N. C.

Oscar Wells, president First National Bank, Birmingham, Ala.

J. B. Forgan, chairman of board, First National Bank, Chicago.

Frank O. Watts, president First National Bank, St. Louis.

C. T. Jaffray, president First National Bank, Minneapolis.

E. F. Swinney, president First National Bank, Kansas City, Mo.

R. L. Ball, chairman of board, National Bank of Commerce, San Antonio, Texas.

A. L. Mills, president First National Bank, Portland, Ore.

The following quotation is from the official report of the proceedings of the quarterly meeting of the Federal Advisory Council held in Washington on May 17th and 18th, 1920, as shown by the June (1920) issue of the Federal Reserve Bulletin:

The Council has given consideration to the matters included in your communication of April 17 and begs to reply thereto in the following manner, following the order set out by you.

(a) Causes of continued expansion of credits and of Federal note issues.

There are many contributing causes of which the following may be regarded as paramount:

(1) We recognize of course, that the first cause is the Great War.

(2) Great extravagance, national, municipal, and individual.

(3) Inefficiency and indifference of labor resulting in lessening production.

(4) A shortage of transportation facilities, thus preventing the normal movement of commodities.

(5) The vicious circle of increasing wages and prices.

(b) How can the reserve position of the Federal Reserve Banks be materially strengthened before the seasonal demand sets in next fall without undue disturbance of the processes of production and distribution?

By urging upon member banks through the Federal Reserve Banks the wisdom of showing borrowers the necessity of curtailment of general credits, and especially for non-essential uses, as well as continuing to discourage loans

for capital and speculative purposes; by checking excessive borrowings through the application of higher rates.

(c) If steps cannot be taken at this time leading to a more normal proportion between the volume of credits and the volume of goods, when can they be taken?

In our opinion steps should be taken now, as outlined in answer to the last question.

This is a clear, positive direction by the Federal Advisory Council, the directorate of the system, to the Federal Reserve Board to correct extravagance, the indifference of labor, and to reduce prices and wages by curtailing credit, and to do it immediately. It is true that Harding in his address to the Advisory Council recommended this action, but the Advisory Council ordered it. If the Advisory Council had at this fateful meeting directed otherwise there would have been no deflation and the economic conditions of our country and of the world would now be different.

The proceedings of the next quarterly meeting of the Federal Advisory Council held in Washington on Sept. 21, 1920, conclusively fixes the responsibility for the deflation program upon the Federal Advisory Council. The Federal Reserve Board evidently had begun to realize the disastrous consequences of the enterprise upon which it had entered, and it sought further direction from the Federal Advisory Council. The following quotations are from the annual report of the Federal Reserve Board for the year 1920, pages 604-609:

Question by the Board: (1) What are the objects to be attained by the policy of credit control in the existing circumstances? Is the object (a) to maintain or to strengthen reserves? (b) To stabilize the existing situation by prevention of further expansion? (c) To bring about a discriminating deflation by reducing the total volume of credit?

Answer by Advisory Council: Taking the index numbers of the U. S. Bureau of Labor Statistics as the most comprehensive and most scientifically prepared of the index numbers covering the entire period 1913 to 1919 inclusive, we may say that the wholesale price level increased from 1913 to April 1920, 165 per cent; in other words, if one calls the dollar of 1913 a 100 per cent dollar in its purchasing power over commodities at wholesale, the dollar of today is approximately a 38 per cent dollar. \* \* \* This was the condition of affairs when the Federal Reserve Board undertook to exercise its power over credit for the purpose of protecting personal and commercial interests. All experienced business men knew that prices would seek a lower level by gradual process if good judgment and conservatism prevailed, or by a commercial debacle if the illogical, ill-considered and extravagant methods brought about by the war were permitted to continue. Under these circumstances and none too soon, the Federal Reserve Board exercised its power over credit in order to constrain bankers and business men to exercise conservatism and help strengthen commercial and financial conditions. The Board in so doing have accomplished a great work and have demonstrated one of the powers for good which the Federal Reserve System possesses. \* \* \* No one wishes to stabilize existing conditions, but to get away from them to a safer and more conservative level. This would naturally bring about a discriminating deflation by extending credit to such industries as were essential and needed support in order to preserve the general business welfare, and by restraining credit to activities which, though perfectly legitimate, were nevertheless nonessential to the general welfare and should



be promoted by the funds of their owners and managers, and not allowed to absorb commercial resources needed for the financing of business closely connected with the public welfare.

Question by the Board: (2) Can a substantial reduction in the volume of credit be effected without injury to the legitimate business of the country and without curtailment of essential production?

Answer by Advisory Council: A substantial reduction of the volume of credit can be effected without injury to the legitimate industry of the country and without curtailing of essential production. Not only this, but such reduction in volume of credit may be made to materially strengthen the credit fabric of the country as a whole. The first and most beneficial effect of the act of the Federal Reserve Board in controlling credit was to arrest the attention of the whole country and to incur high commendation from conservative forces and to incur criticism ranging from mild to violent from certain sections or interests. It made everybody stop and think, and the discussion which ensued showed plainly that the board was right. The psychological attitude of the country towards business immediately began to change, and from wild extravagance and a disposition to enter into new and ill-considered business there came about a feeling of conservation. People began to ask themselves just where they stood, how much they were really worth, and how they would fare if called upon to liquidate their outstanding obligations. \* \* \* It is generally realized that they can not accomplish such results, recessions in price have already set in and are bound to be more pronounced. Business people will have to liquidate their goods in order to liquidate financial obligations. This will bring about competition in selling throughout the country, something that has not existed for several years, and this competition in its normal and natural course will clarify the situation and bring about normal conditions.

Question by the Board: (3) To what extent has one or more of these objects been attained in each district and in the country at large?

Answer by Advisory Council: The object sought to be accomplished by the Federal Reserve Board has been and is being accomplished in all districts.

Question by the Board: (4) To what extent is it necessary to distinguish between the immediate objective of the policy of credit control and the remoter objective, such as reduction in the cost of living?

Answer by Advisory Council: The immediate effect of credit control is to safeguard the situation, to enable all business to function normally, and the Board should at all times make this clear. Although a logical result may be lower prices and lower cost of living, it should distinctly appear that the Board does not seek to control or regulate prices, but leaves the price level to competition under the law of supply and demand.

This is the unanimous official report of the Federal Advisory Council. Comment can not make this language plainer than they themselves have made it. It shows that the Board was satisfactorily bringing about the results that the Advisory Council desired to accomplish, as shown by their May report. It shows that prices were tumbling, but were not yet low enough to satisfy them. It shows that the buying power of the dollar and its consequent value was advancing, but that these gentlemen wanted it still higher. It shows that the cost of living was being reduced, but that they wanted it to be made to appear that this was not their purpose.

Moreover, it shows that they had brought about a worldwide catastrophe, smashing all exchange ratios and making our moneys so high that other countries could not buy our products except at unconscionably usurious rates of exchange to the money changer, and that these gentlemen knew it. It shows further that if they did not actually desire these results that they were willing that others might suffer them in order that the pre-war buying power of the dollar be established.

While there is no official record to establish the fact, the truth is that it was the money trust that ordered deflation. The Federal Reserve Board and Advisory Council were but its agents in the execution of a program that had been prepared for them. Neither Harding nor the Federal Ad-

visory Council originated the scheme. It started with the Bankers Statistics Corporation of New York City, or rather with the bankers who organized and directed the Bankers Statistics Corporation.

The Pujo Commission, appointed by congress to investigate the "money trust" found that such a trust existed and that it was composed of J. P. Morgan & Co., First National Bank of New York, the National City Bank of New York, Kidder, Peabody & Co., of Boston, Lee Higginson & Co., and Kuhn, Loeb & Co., of New York. This is a quasi judicial finding, made after a public hearing more than ten years ago. The power and the personnel of the trust has been greatly extended since that date. Paul Warburg, a partner of Kuhn, Loeb & Co.,—now Chairman of the Federal Advisory Council, and A. B. Hepburn, then president of the Chase National Bank of New York, which is controlled by Morgan & Co., according to the finding of the Pujo Commission, had more to do with conferring upon the Federal Reserve Board its carefully concealed powers than did its reputed authors, Senators Owen and Glass.

These same gentlemen, together with other members of the money trust have more responsibility for the deflation program of the Federal Reserve and banking systems than had Governor Harding. I haven't sufficient data to connect up the other members of the Federal Advisory Council with the money trust, but it is a safe guess that more of them are members of, or controlled by the money trust than Warburg and Hepburn.

The Federal Reserve System has completely organized, cemented and perfected the power of the money trust, and it was designed for these purposes. It now completely dominates the banking system, fixes prices and wages, and determines the degree of our prosperity. Our complaint therefore should be primarily against the system which can be employed as an instrument of such vast destruction, and secondly against those who control its policies, and only in a minor degree against the agents who have carried out these policies.

The money trust appears to be willing that Harding should be the "goat", although they have sought to keep him in the job. Not one of them has volunteered to accept responsibility for what he did; they all appear to be willing for the public to believe that Harding did it.

Perhaps I am not the one to defend Harding, for I have opposed him and criticized him, and have approved everything you have said about him. You have performed a great public service in your exposure of the administration of the system, and its destructive consequences, but you do not go far enough. The fundamental trouble is the system itself. The cause of truth demands that the responsibility be placed on the law and the money trust.

G. W. ARMSTRONG.

[Governor Harding as the mouthpiece and figurehead of the forces behind the deflation work of the Reserve Board was naturally the one upon whom the chief blame should rest, for whether he originated these policies or was merely the puppet pulled here and there by the powerful financial interests, he accepted the responsibility of his work. The MANUFACTURERS RECORD has repeatedly said that the whole Board needed a complete cleaning out and that no seven men on earth were good enough and wise enough to have a complete domination in secret sessions over the business and financial interests of this country, and that practically means over the world.

We think the deflation policy had already been decided on before the action of the Advisory Council and it was only in May that the Reserve Board found it advisable to have some of its advisory bodies make recommendations that

they might be in the record for use later on. That was why, for instance, the resolution was passed in the Senate, asking the Reserve Board what, if anything, it was doing to bring down prices and prevent inflation.

The reason we have been particularly attacking Governor Harding is that his reappointment and confirmation by the Senate would have been a definite declaration that the nation, after calm consideration, sanctioned and approved the whole policy for which Governor Harding had become the spokesman and advocate. In this country, there has to be such a thing as personal responsibility. Governor Harding represented in his own person the whole program and policy of deflation. A definite defeat of him, therefore, would represent, as nothing else could, decisive notice to the people that his policies were repudiated. That is why we have emphasized the objection to Governor Harding. He permitted himself to become the instrument of destructive influences and by common consent the battle between the people and these selfish interests has been brought to the issue of whether or not Governor Harding should be reappointed.

Mr. Armstrong's letter, is exceedingly valuable, as are all his writings, and in the main, he states the condition very brutally but very truly. We have never believed that we are going to correct the trouble by a change in the personnel of the Board. Mr. Armstrong is right when he says that the fundamental trouble is the system itself, but that is not the only trouble. The other trouble is in our ignorant conception of what money is and what its function is. We are never going to have any real relief so long as the value of the dollar fluctuates widely and such fluctuation can be controlled artificially at will by a few men in Washington. There are no living beings who can withstand the temptations which such authority induces. The whole object of the gold standard is in theory to prevent the fluctuation of the dollar value and to give an arbitrary measure to values which could not be disturbed by human intervention. Through chicanery and trickery, exactly the opposite condition has been brought about.—Editor MANUFACTURERS RECORD.]

### High Tide in Construction at St. Louis.

St. Louis, Mo.—This city is experiencing building activity such as it has not had in many years. There are now under way 72 major projects involving the expenditure of more than \$20,500,000. Building permits for over \$23,000,000 have been issued in 1922, surpassing by \$6,000,000 the total for 1921. New projects to be started within the next few months number 24 to cost above \$11,000,000. In addition millions of dollars are represented by construction projects completed this year.

A housing shortage still exists but it is not as great as a year ago. Many apartment houses are under construction as well as scores of residences. Much of this year's building has been for business and industrial purposes—factories, stores and warehouses. Work is going forward on eight hospitals and similar institutions and on five school buildings. A considerable number of churches are being built and others enlarged and improved.

There is a noticeable tendency to carry forward construction throughout the year, and this movement is welcomed by labor and builders alike, as tending to eliminate a seasonal slump in the industry, always a serious handicap.

### 8-Story Hotel to Cost \$250,000.

Raleigh, N. C.—Plans for a new eight-story fireproof hotel are now in the hands of G. Lloyd Preacher & Co., architects. The structure will cost \$250,000 and this amount has been subscribed by two prominent business men. Plans call for a hotel with ninety-seven rooms, a large attractive lobby and a private dining room.

## A VIRGINIA FURNACE WITH ABUNDANT SUPPLIES OF RAW MATERIALS.

### Iron Interests of Virginia Handicapped by High Freight Rates.

Pulaski Iron Company.

Philadelphia, December 13.

Editor *Manufacturers Record*:

I have read with interest the article in your December 7 issue under the caption "Foreign Iron Ores Might Revive and Develop Virginia Iron Industries," which article supplements a previous one which you published last month shortly after our furnace was started. In the article referred to you mention conditions which are certainly quite true as regards the situation in Virginia as a whole. As near as I am able to ascertain, our actual furnace costs are about on a par with our natural competitors in the eastern Pennsylvania district, but we are surrounded by a high wall constructed by insurmountable freight rates to our natural markets. The many advances have widened the differentials which formerly existed, and which previously were not of a nature to keep us out of competitive markets.

It is quite true that as a whole Virginia is more of an agricultural than a manufacturing State, eliminating, of course, the mining district of the southwestern portion. Over quite a period of years, not over 15 or 16 per cent of the product of the Pulaski Iron Company's furnace was consumed in Virginia and neighboring states, the bulk of the tonnage moving into New England and eastern Pennsylvania. At this particular moment, all four furnaces operating in Virginia are piling practically all of their make.

There is no reason however, as far as this company is concerned, why any consumer of iron should not locate in Virginia. The source of raw materials for the manufacture of pig iron controlled by this company is inexhaustible. We have sufficient Pocahontas coking coal of our own, besides being able to draw on the unlimited resources of the Pocahontas Fuel Company. We have iron ore reserves which are measured in the millions of tons, and have sufficient calcite limestone to flux the other raw materials in sight. Our blast furnace is of the most approved modern type, and it has always been the policy of this company to keep its operations abreast with the newest developments in mining and metallurgical practices.

With the relation to the use of foreign ores, it would seem that the logical proposition would not be to haul the ores inland, but to bring the coal to tidewater, and there convert it into coke with by-product ovens. The furnace then would enjoy the water haul on its outbound product, but the resultant product would not compete with the old-fashioned Virginia iron.

I am giving you these thoughts to use as you see fit, at the same time advising you that as far as this company goes we are in the pig iron business for several generations to come.

PERCIVAL JOHNSON, President.

### 11-Story Office Building Planned for Atlanta—\$1,000,000 Hotel Also Announced.

Atlanta, Ga.—Definite plans for the erection of an eleven-story office building and a five-story business building, and tentative plans for a \$1,000,000 hotel were announced here last week. The three buildings will necessitate an expenditure of more than \$1,500,000.

George F. McGlawn and S. W. Bowen will erect a brick office building to cost \$350,000. Louis and Alvin Wellhouse plan a five-story commercial building to cost \$200,000.

The proposed hotel will contain 450 rooms, according to the Massell Realty Company.

## WATER PUMPING STATION AND FILTRATION PLANT, MEMPHIS.



Work is now under way on the above structure for which the contracts totaling over \$2,000,000 have recently been awarded. The Gauger-Korsmo Co., of St. Paul, Minn., were awarded contract for the main building, part of the equipment, and all outside work. D. D. Thomas & Sons, of Memphis, have contract for the 10,000,000 gallon reservoir and the substructure, and the Worthington Pump & Machinery Corp. of New York, for the secondary pumping units. The Link Belt Company of Chicago, will furnish the coal and ash handling systems. The Chuse Engine & Manufacturing Co., of Memphis, Tenn., and Mattoon, Ill., will provide the engines, generators and switchboard. Fuller & McClintock, of Kansas City, Mo., are the engineers; Jones & Furbinger, of Memphis, the architects.

### Progress in Fighting Crop Pests.

Work of combating insect pests that yearly do millions of dollars damage to American crops has been carried on vigorously, according to the annual report of the Federal Horticultural Board, Department of Agriculture.

Among the major insect pests that the board is fighting, in co-operation with the Bureaus concerned, are the pink bollworm of cotton, European corn borer, gipsy and brown-tail moths and Japanese beetle. The more important plant diseases are the potato wart, white-pine blister rust and citrus canker. The report summarizes briefly the progress made against the various pests and diseases.

The work of eradicating the pink bollworm is in better status now than ever before. Substantial reductions in the infested areas have been effected and suitable legislation and co-operation on the part of the states and planters concerned have been obtained. The real danger, says the report, will come just at this period when the insect seems to be practically eliminated, and planters and others may come to the false conclusion that it is not necessary to continue the work and cost. The inspection and field work is more necessary and should be prosecuted with more intensity at this stage than at any other if ultimate success is to be gained.

### Satsuma Orange Shipments Double 1921 Total.

The 1922 Satsuma crop shipped to outside markets from Mobile county, Ala., was approximately 300 cars, which was more than double the amount shipped the preceding year. With new orchards coming into bearing and the natural increases from the older orchards, the crop for 1923 is expected to reach 600 or more cars from Mobile county points. The fruit reaches the great markets of the country early in November, before the California citrus crop has been placed on the market. By the time the bulk of the Florida fruit arrives most of the Satsumas have been marketed.

### Contract Let for \$350,000 Apartment.

Atlanta, Ga.—Gude & Co. has been awarded the contract for construction of a \$350,000 apartment house to be known as the Peachtree Terrace. G. Lloyd Preacher is the architect. S. P. Cronheim is the owner of the structure which will occupy a lot 100 by 340 feet.

### Opposes Attacks on the Railroad Law.

At the recent annual meeting of the Associated Traffic Clubs of America, which organization it appears includes railroad and industrial traffic men in about equal numbers, a resolution was adopted subject to the approval of member clubs, and saying: "Regardless of the faults of the Transportation Act of 1920, in view of the fact that a radical element in Congress and elsewhere contemplates an assault on the law, which is in danger of resulting in harmful instead of helpful railroad legislation, the part of statesmanship at this time is to present a bold front against any and all such attacks, for the reason that the present transportation act is a long step in the right direction of establishing the principle that there must be a proper return to the carriers in order to assure proper service to the shipper."

### Lime Production in 1921 Valued at \$30,977,000.

The total value of manufactured lime in 1921 amounted to \$30,977,500, compared with \$33,970,500 in 1919, or a decrease of 8.8 per cent states the Department of Commerce.

Of the 301 establishments reported in 1921, 102 were in the Southern States as follows: 30 in Virginia; 15 in Tennessee; 14 in Missouri; 13 in Maryland; 8 in Alabama; 7 in Texas; 5 in West Virginia; 3 in Arkansas; 2 each in Florida and Oklahoma; 1 each in Georgia, Kentucky, and North Carolina.

### 200,000 Square Yards of Street Paving at Florence.

Florence, S. C.—After a suspension of activities for 45 days, work of paving has been resumed by the Harlee-Thrash Construction Co., Inc. and the Southern Paving Co. The paving program will be pushed to completion now without further delays, and it is expected that the work will involve approximately 200,000 square yards of street.

### \$475,000 Junior College and High School.

Wichita Falls, Tex.—The School Board has announced that work will start early in the spring upon a new junior college and high school building, the contract for which has been awarded to Kreipike & Schaffer of Oklahoma City. The structure will cost approximately \$475,000.



# The Florida Everglades.

## ARE THEY A LIABILITY OR AN ASSET TO THE STATE?

[The writer of this article Mr. Robert Ranson of St. Augustine, Fla., after making several examinations of the Everglades, has during the past six months resided there continuously; during the first three months the Glades were suffering from the greatest drought on record and during the last three months from unprecedented flood conditions.]

Mr. Ranson has devoted twenty years study to muck and peat lands, was a charter member of the American Peat Society established in 1907 and its vice-president for several years. He has visited all the prominent peat and muck operations in the United States and Canada and spent one year in different parts of Europe on the same mission and should be able intelligently to discuss the Everglades drainage project based on wide observation and practical work in such lands. No one is more impressed with the future of the Glades and their value for cultivation and other uses not touched on in his paper but which will be the subject of future discussion.

Having watched the effects of the unprecedented rains for ninety days he is convinced that radical changes are necessary both in the supervision and execution of the work in hand and says that to attempt to control these vast drainage and reclamation plans from Tallahassee, six hundred miles from the scene of action by a board of State officials who have a multiplicity of other duties, is about on a par with what might have been expected of the results of the late war, if the allied generals had attempted to conduct their military operations from offices situated in London, Paris or Washington.

His conclusion is that common sense methods will cure the evil but that political management might ruin it. We are publishing Mr. Ranson's letter merely to throw any light possible upon a matter of very great importance to the whole country.—Editor Manufacturers Record.]

By ROBERT RANSON

As far back as the days of the Indian wars from 1830 to 1850, officers of the United States Army, whose campaigning occasionally led them to the shores of Lake Okeechobee and as far into the Everglades surrounding the Lake as were accessible in those days, often discussed the potentialities of these vast overflowed solitudes for agricultural operations and later, some 40 years ago, many intelligent men wrote about them in various newspapers, clippings of which may be consulted in the reference library in St. Augustine in the Amidown collection of books.

These lands being without question available for acquisition by the State under the provisions of the Swamp Land Act of 1850 the State officials in Tallahassee after discussing ways and means really began operations under the late lamented Napoleon Bonaparte Broward, assisted by capital provided by Richard H. Bolles of Colorado, and plans were made and actual work begun. Bitter opposition from many sources arose apparently traceable to disappointment of parties who had hoped to in some manner acquire title to these lands but who were unwilling to advance the necessary funds to drain them. At one time as will be well remembered the Everglades drainage was not only a bone of contention but a platform plank on which contending politicians rode to victory or defeat and the largest and most influential papers in the State condemned the whole scheme as impractical and the engineering plans as faulty. That was approximately 16 years ago.

Since that time four canals from the Glades to the Atlantic Coast have practically been completed; these are known as the Palm Beach, Hillsboro, North New River and Miami, the old Disston canal into Lake Hitchcock and beyond deepened, and the St. Lucie canal dug within two miles of Stuart.

It is interesting to note what has been accomplished, how much it has cost, and what the results are to date, as when these items can be substantially stated valuable experience has been gained for future operations.

Contrary to the belief that settlement of Glades lands would follow up the cutting of the canals from the Coast the exact reverse has been the case and the lands farthest from the Coast have settled up first, and with one or two exceptions settlement starts from Lake Okeechobee and doesn't run over six miles back into the Glades.

As to the number of people living in the Glades at present there is little accurate information. The Associated Press recently reported a thousand families homeless. People living in the Glades doubt if there are one thousand families living there and know of not over twenty-five who have had temporarily to vacate their homes, and of these many ex-

pect to return shortly; there may be more or less. The expenditure to date by the State is possibly six million dollars, possibly more.

The main thing to be established is what experience we are gaining by the flood conditions existing in the Glades at this time, and what may be expected in the future if the formulated plans are carried out.

Under the State Drainage Law as it now stands amended, many sections have organized drainage districts but they are all babes in size compared to the Everglades Drainage District and whether their efforts have been attended with success or failure has little to do with the question under consideration. Their only importance is local whereas the interest in the Everglades is not only statewide but almost national, and it ranks as it is justly entitled to with many of the large irrigation projects of the West on account of its importance in adding to the food producing areas of the whole country.

This makes it doubly important that we should know if what is being done will give desired results and at no time is it easier to give a verdict than now when Lake Okeechobee has risen to over eighteen feet above sea level. To be exact at this writing it is 18.6 or more than two feet higher than required by the War Department to insure safe navigation on the Lake. This is six feet higher than it stood all last year, in the canals up to June, when the locks were closed. Accordingly the Glades are flooded to an extent that entirely precludes any planting and the high water has risen in the ground to a point that has killed practically all the avocados and many other permanent fruit trees and what hasn't been killed is of course suffering badly.

Can any means be devised to prevent a recurrence of such conditions or must we be content with scalping out a truck crop from time to time in years when rainfall is less or drainage ditches a little larger than now?

It is asserted that the St. Lucie Canal when finished will take care of Lake Okeechobee, its adjacent lands, and a watershed of 5300 square miles to the north of it in flood times, and that the gradual deepening of the present canals will make all safe for all time. It may, but no one who has observed conditions during the past sixty days believes it to the extent of putting in their time and money in the planting of fruits that take some years to mature, for the growth of which the soil is eminently suited and which yield large returns.

Balancing the wonderfully productive soil and a climate to help it along lie two great dangers that must be fought together, fire and water. Thousands of acres of Glades lands went up in smoke and ashes last summer leaving depressions

in the soil of one to three feet in depth and while the rest of the soil lying beneath was not hurt physically, possibly bettered, the least rise in water above normal put these depressions under water and of course they were only cultivatable in a dry time.

What can be reasonably expected from five so-called drainage canals whose aggregate length is 262 miles containing all kinds of obstructions and whose fall is less than one inch in a thousand feet, even when the locks are opened to the ocean level? They are like the neck of a bottle having been built 25 feet wide, less than half the width of the canals. The St. Lucie Canal will do well if it takes care of the 5300 square miles to the north of it, so we will leave that out and ask, can we rely on the four existing canals, or four more, or yet four more, to rid the Glades lands themselves of water in flood times with such a slight fall, so slight that it is indeterminable in a country where no level can be set and remain set for five minutes and where levels taken at one time cannot be relied on at another on account of the shrinkage of the soil in dry times?

Let us suppose that all the drainage canals now in the Glades and those contemplated are successful in ridding the soils of water and taking care of the Lake level. Even if this were possible, we shall in dry times be afflicted by fires that if not controlled at the outset will rapidly make the Everglades a memory and reduce the soil level to a point where another drop in depth of canal water will be necessary. Then the last that will be heard of these fertile fields will be a few ashes sprinkled over a bed of rock and a few old settlers sitting round and pointing out to their great grandchildren a spot on which they raised and marketed for cash six thousand dollars worth of beans in six weeks on six acres and did nothing between planting and picking.

Glades lands that with proper precautions might be worth all and double the highest price yet demanded for them are today in this state of noninsurance dear at a cent an acre. No agriculturist will dispute the statement made by Mr. Conkling last spring at the State Horticultural Society's meeting at Orlando when he said in speaking of lands suitable for citrus culture that oranges could be successfully grown on high or low pine lands, hammocks or muck, with the one essential "a stable water table." Can this condition be attained in the Everglades? If it can there follows naturally a solution of the two great problems that now confront the grower, first to care for excess water in flood times and secondly, to keep the land so moist that fire cannot damage them.

In the contemplation of all difficult problems is it not well to examine into what others similarly situated have done and note their failures or successes? Nowhere in the United States so far as we have been able to learn, is there any body of lands as flat as the Glades or in such danger of inundation. Let us therefore go further afield and see what has been accomplished and how in the flattest country known in Europe, Holland. Nowhere else are conditions so alike except in the one item of climate, as in the Everglades and in Holland which as a whole has not only no elevation above the ocean but a great deal of the country is lower.

A system of diking and pumping, chiefly by wind power, keeps the water table in these lands at stable levels while the canals are not only the arteries taking off the surplus waters but furnish besides cheap means of transportation. These rise and fall alternately with rainy and dry seasons but this in no way affects the cultivated areas and if by some mischance the fields should get so dry as to be in danger of fire the opening of a flood gate from the canal immediately corrects this condition.

No Glades resident today after this flood experience will be tempted to plant any permanent trees without seeing to

it that he is protected by a dike and has means for pumping out his surplus water. Those having Glades lands to sell must sell them less the expense of diking or subject to that cost. Careful figures from work already done along this line show that the average forty-acre tract can be diked at an expense of from ten to eleven dollars an acre, and the additional pump or pumps installed and worked as necessary at a further annual expense of about ten dollars per acre. Putting the entire cost at the outside figure of twenty dollars annually for building, repairs to dikes and pumping, it is cheap insurance and counts but little compared with amounts used in other parts of the State for fertilizers which are unnecessary on the Glades lands.

Certain parties recently victims of flood conditions feel that they have been deceived in settling on Glade lands, but not any more so than those who sold them the lands. No one could possibly foresee that excessive rains would so completely demonstrate that the canals constructed up to date were the merest ciphers. Nor can any blame be attached to the State officials. They are carrying out the plans of the best obtainable engineers in the United States who if living today would acknowledge their mistakes.

All have been guilty of trying to do in ten years with a very small amount of money what will take fifty years to accomplish and cost nearer eighty million dollars than six. There is no need to call for this amount in one lump but we may safely say that no Everglades lands can be brought into successful cultivation on a large scale for less than ten dollars an acre, and to be on the safe side let us say twenty dollars an acre on a small scale for diking. It will save time and money too to read up on Holland's handling of her lowlands and best of all to send a commission over there to report first hand from actual observation. With this done the Everglades may easily become the sugar bowl of the nation and the largest single source of choice early vegetables, but without it we might as well give it over to cranes and herons and forget it ever existed.

### Big Building Year in Baltimore—Outlook Bright for 1923.

Next year will be one of the largest in the history of Baltimore for residential and industrial construction, according to local architects, contractors and builders. In eleven months the valuation of building permits issued exceeded that of any preceding year. In addition to the large number of new projects to be started early in 1923, as indicated by plans now in the hands of architects, there will be a big carry-over of major uncompleted projects which will give employment to hundreds of persons.

It is predicted that there will be no important change in the prices of building materials or of labor during the coming twelve months. Due to the unusual demand for such materials resulting from the general open fall throughout the country and the rapidity with which construction projects have gone forward, prices are above the average for this period of the year. There are no indications that the demand for houses will decrease—rather it will increase in Baltimore and vicinity. Building of this character has been especially active during 1922, most of this construction being undertaken by individual owners rather than by speculative builders. Hundreds of persons who bought lots in the suburbs during the boom days are now completing their payments and many are erecting their homes with the aid of building associations, banks and insurance companies.

The industrial outlook is steadily improving and many factories are running at capacity and overtime to supply the demand. As a result extensive improvements and additions are being made. The number of new factories established during 1922 is very large and this record will be maintained in 1923, judging from all indications.

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## The Comparison of the Railroad Dollar and the Barge Line Dollar.

By T. Q. ASHBURN, Colonel, C. A. C., (D. O. L.), Chief, Inland and Coastwise Waterways Service.

The executive of an important railroad system has recently published an analysis of the origin and distribution of the revenues of that line stated in terms of where an average dollar came from and where it went. It is an instructive showing which is easily understood.

The following analysis of the acquisition and disposition of a dollar coming into the Federal Barge Line operating on the Mississippi River has been worked out by the Statistical Department of the Mississippi-Warrior River Service, and is a matter of general interest to everybody who believes in water transportation.

The Federal Barge Line derives its revenues from performing transportation services comparable with the railroads. While its revenues are less comparatively, for a lower basis of charges is uniformly made for its services than for corresponding hauls by railroads, savings to the public are one of its reasons for existence. The cost to the public, on the basis of the railroad dollar, of the services the Barge Line performs, are easily computed. The public saving on freight carried on the Mississippi River during the last fiscal year, for example, arrived at by charging the public for barge service on basis of the railroad rates, amounted to \$850,000.

The following chart takes a railroad dollar, assumes the saving as well as the actual freight as paid into the treasury of the Barge Line and then shows, in forms similar to the railroad analysis, what became of each such dollar.

### WAR DEPARTMENT.

Inland and Coastwise Waterways Service.

#### MISSISSIPPI-WARRIOR SERVICE.

Mississippi River Section (St. Louis to New Orleans).  
Where the Dollar comes from and Where It Goes, covering Fiscal Year ended June 30, 1922.

#### WHERE THE DOLLAR OR EQUIVALENT CAME FROM.

	CENTS
Transportation of freight (655,789 tons; average distance per ton 1030 miles; average revenue per ton mile 3.8 mills)	74.42
Other income accruing to shippers, saving between all rail and rail water rates (\$850,000, or \$1.25 per ton)	24.93
Source related to freight service, such as towing, storage, etc.	00.65
	100.00

#### WHERE THE DOLLAR WENT.

	CENTS
1. Maintenance of Floating Equipment.....	07.99
2. Maintenance of Terminals.....	01.93
3. Traffic Agencies-Compilation and Issuance of Tariffs.	02.55
4. Solicitation, etc.	09.51
5. Wages and Boat Crews, Subsistence, etc.....	09.33
6. Fuel and Lubrication.....	13.48
7. Stevedore and Wharf Labor, etc.....	04.54
8. Harbor, Switching and Lighterage of Freight.....	03.22
9. Dockage, Wharfage and other Terminal Expenses....	04.79
10. Loss, Damage and Casualties.....	02.45
11. Salaries of General Officers, Clerks and Attendants....	01.75
12. Miscellaneous General Expenses.....	00.60
13. Rent of Equipment and Miscellaneous Rents.....	01.61
14. SAVING TO SHIPPERS, difference between RAILROAD AND WATERWAYS RATES.....	24.93
15. INCOME ACCRUING TO U. S. TREASURY.....	11.32

	CENTS
Depreciation on Equipment.....	07.77
Income over Expenses.....	03.55
	100.00

Of the railroad dollar spread over Barge Line operations it will be seen that—

- 24.93 cents was saved directly to the public by the Barge Line's lower scale of charges for comparable services.
- 29.28 cents went directly to pay wages, salaries and subsistence of employees.
- 16.29 cents was paid for maintenance of plant and was indirectly paid in most part for labor.
- 9.33 cents went to pay for fuel and lubrication, in which was involved the labor of transporting the fuel oil to the Barge Line, as well as refining and transporting the lubricants.
- 4.79 cents went to pay for the use of leased terminals. A part of this was undoubtedly disbursed for labor by City and State Dock Commissions.

1.61 cents went for miscellaneous rents.  
2.45 cents went to pay for loss and damage claims.  
11.32 cents went into the public treasury to retire and pay a return on the people's investment in this transportation line.

100.00 cents.

## Virginia Iron Producers in Active Operation.

Roanoke, Va.—Four Virginia blast furnaces are now operating at Max Meadows, Pulaski, Buena Vista and Low Moor and their resumption marks the return to normalcy of the iron and steel industry in the State.

During the four years following the signing of the Armistice not a pound of pig iron was produced by blast furnaces in Virginia and the demands of foundries were supplied from stocks left over when operations were discontinued.

In speaking of the resumption of work an official of the Virginia Iron, Coal and Coke Company states that the present market does not justify operation, but that prospects for the industry in the near future are beginning to assume a brighter aspect. That it is possible other furnaces in the State will commence operation early in 1923 was gathered from conversation with the official as consumption of old stocks of pig iron have been depleted during the years following the war.

The Virginia Iron, Coal and Coke Company is one of the largest producers of pig iron in Virginia during normal times, having furnaces at Roanoke, Radford, Pulaski, Max Meadows and Middleboro, Ky., and the closing of this company's plants during the market slump just after the War caused a business depression throughout the Southwestern part of the State.

The Max Meadows furnace with a capacity of over two hundred tons a day is operating full blast. The Pulaski Iron Company's furnace at Pulaski is the largest and most modern blast furnace in Virginia, having a capacity of well over three hundred tons a day. The Low Moor plant has a capacity of 250 tons daily and the furnace at Buena Vista turns out 150 tons a day.

## Orders Increase for Southern Pine.

New Orleans, La.—Orders for lumber from 125 mills of the Southern Pine Association for the week ending Friday, December 8, totalled 3538 cars containing 79,916,344 feet, giving an average per mill of 639,331 feet as compared with the average order per mill of 587,661 feet for the preceding week. The average order for the week ending December 8 was more than 200,000 feet in excess of the average order three months ago, and this gives an idea of the strong demand for lumber throughout the country at the normal season of slackened building activity. Shipments during the week were 3320 cars aggregating 74,992,160 feet, and production totalled 73,575,016 feet.

Shipments for the week were 1.93 per cent above production. Orders were 8.62 per cent above production and 6.57 per cent above shipments. There was an increase in orders on hand during the week of 1.32 per cent.

The report from 125 mills for the week is as follows:

	Cars	Feet
Orders on hand beginning of week.....	16,485	372,363,180
Orders received during week.....	3,538	79,916,344
Total .....	20,023	452,279,524
Shipments during week.....	3,320	74,992,160
Orders on hand end of week.....	16,703	377,287,364

## Contract for New Auditorium and Armory.

Jackson, Miss.—The I. C. Garber Construction Co. has been awarded contract for erection of the new auditorium and armory. Other contracts were as follows: Ray Wright, heating; the Davis Plumbing Co., plumbing; and A. E. Koernerman, electric wiring. Work will start on the new structure about January 1.



# NEWS AND VIEWS FROM OUR READERS

[Publication in this department of letters from our readers does not mean that we either approve or disapprove the views expressed. We believe in a full and frank discussion of the mighty questions of the hour, for only in this way can the truth be found. Therefore we often publish letters with which we do not agree.—Editor Manufacturers Record.]

## Pecans and Other Crops Beating Cotton in Ease of Production and Profit.

W. A. WADSWORTH, Proprietor, The New South Farm,  
Prattville, Ala.

The South is indeed fortunate in having you as a friend after a long life of deep study of all conditions pertaining to our section. We have in mind the cotton question as presented in the MANUFACTURERS RECORD of November 23. However, as a dirt farmer we see all you say is true, still we see a little more in digging a living from Southern soil.

Before the advent of the weevil natural cotton lands highly charged with nitrogen and vegetable mold produced most and best cotton. There seemed to be no limit to acre production, for as we increased the nitrogen and vegetable matter content and followed this up with mineral fertilizers to balance off we increased the yield and made such land immune to drouth or wet weather conditions. The boll weevil does most damage now on such lands. This means that after our lands pass a certain degree of saturation with humus and nitrogen these lands become more profitable in other crops. Velvet beans in the coastal plains increase the nitrogen and humus content at a rapid rate at a very cheap cost. The velvet bean has a tendency to clear the soil of plant diseases and choke out noxious weeds and make the following crops other than cotton more productive. The velvet bean is a limiting factor in cotton production since it makes all crops but cotton more lucrative.

Another crop, the pecan, will gradually encroach on the cotton lands as the country grows older. It so happens that the pecan belt is identical with the cotton belt. Not only are the respective belts identical as a whole but they dovetail in localities and soil conditions. The best cotton land, without the weevil, is the best pecan land. In the cotton belt the further south we go the finer grades of pecans grow and just as with cotton scale, fungus and all plant diseases become more numerous. The farther north we go the fewer enemies the pecan has but varieties of the best qualities are not so well adapted. With information now available the northern pecan belt must depend on quantity production and the Southern cotton belt depend on quality production. No doubt spraying will be found extremely profitable in the South on the best quality paper-shell varieties.

The pecan has passed the experimental stage. All the large nurserymen and most of the farmers now know what varieties are best suited to their soil and climatic conditions. The pecan industry is not developing blindly but under the efficient leadership of our agricultural colleges.

We set only twelve pecan trees to the acre. On most favored spots they begin bearing three years later. The tenth year, where the stand is perfect, an acre of pecans will produce as many pounds of pecans as the same acre would produce pounds of cotton. If set on land rich enough to produce a bale of cotton per acre, after twenty-five years the pecans will produce the weight of twelve bales of cotton. Individual trees in this section bear out this assertion.

One pound of pecans is now worth two pounds of cotton.

Pound for pound it is worth more than any other fruit or not at the point of production. It lends itself to cheap transportation rates ad valorem because of its high keeping qualities and cheap containers and high value per pound or volume. Maintenance of soil fertility in the pecan orchard is the easiest in the world because it lends itself admirably to the growing of winter legumes while the trees are dormant and affords abundant leafage against the burning summer's sun and beating rain. It is non-exhaustive to the soil because the contents of the nut are mostly drawn from the air. It reduces erosion to the minimum because it is the nearest approach to a forest of hickory. The young orchard lends itself to cotton culture or any other culture except grains until the trees begin to bear in quantities. After they begin to bear in paying quantities it is not advisable to plant in cotton as the hired labor will appropriate the fallen nuts to their own use while gathering the cotton.

In the pecan we have every advantage we have in cotton besides other advantages viz: a higher priced product per pound, a cheaper maintenance of soil fertility, a larger tonnage, and less cost to harvest and bag.

We have only 60 per cent of the monopoly on cotton production but we have a 100 per cent monopoly on pecan production. They are both handed down from heaven in the ozone that sweeps through Southern fields and forests. The pecan, larger and stronger, will wax and cotton wane.

## The Shortage of Transportation Facilities.

L. J. N. KELIHER, Manager Keliher Construction Company,  
Little Rock, Arkansas.

Your cover page editorial is indeed timely. We, of the road building industry, would like to be able to feel that the "Operating Prospects for 1923" will be as free from delays due to lack of transportation facilities as the quoted prediction seems to indicate.

We would like to know whether the railroad officials have ordered cars for the transportation of sand, gravel and cement, or will we have to use "coal cars" when they are not required for the transportation of coal, and wheat cars when the crops are not being moved. Can we count on a full construction season with the assurance that there will be sufficient cars for road building materials throughout the entire year or will we have a shutdown in the fall and give all of our cars to the other industries?

When we ask for "sand and gravel cars" will the railroads know what we mean or will they start talking about some priority order requiring all "coal cars" to move in the direction of the mines? Wouldn't it be a grand and glorious feeling if we could get a contract with the railroads for the delivery of our daily requirements of cars under penalty of their paying as liquidated damages just one-half of what it costs us when they fail to give us material?

## Against Foreign Loans.

G. R. LOMBARD, Augusta, Ga.

I fail to see why our Government can consider losing \$5,000,000 of our money to Liberia or any other country. All kinds of business are so heavily burdened with local and federal taxes it seems to me if our Government has that much more or less, to loan, it should be applied to payment of our debt, so as to reduce taxes. We are already loaded heavily enough.

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# THE IRON AND STEEL SITUATION

## Steel Market Called Quiet but Nevertheless Much Business is Being Done.

Pittsburgh, Pa., December 16.—[Special.]—The steel market seems very dull. Some of the independents are decreasing operations slightly. The Steel Corporation has increased its operations since the first of the month and will increase a little more still in the next ten days.

The week has been practically bare of concrete individual developments of importance. The common statement in the trade is that the steel market is dull, but the trade has had so much excitement since the Armistice, with prices sharply advancing at times and steel hard to buy and to get delivered that when things run along smoothly it looks as if business is not being done. The definite proof of these observations is that throughout November the finished steel markets were apparently very quiet, yet the United States Steel Corporation had the heaviest shipments in November since January, 1921, and its unfilled tonnage report shows that it booked 94 per cent as much tonnage as it shipped, the decrease in unfilled obligations being only 62,045 tons.

There is relatively little forward buying in steel products but there is a very fair volume of business for prompt shipment being done in most lines. Buyers are taking deliveries very well indeed on old orders, and surprisingly well considering the time of year, it being the normal thing for buyers to wish deliveries decreased in December, on account of inventory January 1. There is no indication that any buyers have instructed mills to decrease or postpone shipments. In merchant steel pipe and in nails buyers are exerting pressure on mills to secure heavier deliveries.

Steel ingot production was at a rate of about 40,000,000 tons a year in both October and November. Thus far this month, with an increase by the Steel Corporation and only slight decreases by some independents, the rate is higher, and the average rate for the month will probably be fully as large, after allowing for some holiday shut-downs, making a rate of 40,000,000 tons a year for the quarter, against an average of under 35,000,000 tons in the second and third quarters. The size of order books is so different at different mills, and so different even in different departments of the same mill, that definite predictions as to the total of production even in the next couple of months cannot be made. The general expectation is that a relatively high rate of production is assured for six months or thereabouts. The industry hardly hopes for larger operation or higher prices but it does hope for lower production costs, to bring reasonable profits, for earnings have been very poor for two years.

Bars, shapes and plates remain quotable at 2.00c., with occasional slight concessions. Pipe is very strong at 66 per cent basing discount, while nails are strong at \$2.70. Tin plates at \$4.75 and black sheets at 3.35c. are steady, concessions being exceptional and small at that.

Slabs, billets and sheet bars are firm at \$36.50, Pittsburgh or Youngstown, there being little activity as requirements are taken care of by old purchases.

Connellsville furnace coke weakened a trifle more early this week, becoming easily available at \$6.50 for good brands. Foundry coke declined 50 cents to a range of \$7.00 to \$7.50, according to brand. In the past two or three days there has arisen a heavy demand from the east, on account of shortage of anthracite, and off coke as well as standard has met a ready sale. As anthracite production runs at over 2,000,000 tons a week and the merchant coke output of the Connellsville region is less than 100,000 tons a week, it does not take much to move the Connellsville market, and higher prices are likely.

The buying movement in foundry iron reported a week ago

continued for several days more and furnaces have a fair backlog for first quarter, with the market quieter now and prices stiffer. Basic iron has seen little activity. The market is quotable at \$27.50 for Bessemer, \$25 for basic and \$25 to \$26 for foundry, valley, with \$1.77 freight to Pittsburgh.

## Many Inquiries at Birmingham With Favorable Outlook.—Only Brief Lull for Holidays.

Birmingham, Ala., December 18.—[Special.]—The usual holiday lull in the pig iron market in the Birmingham district this year promises to be brief, inquiries now being numerous and sales consummated right along, delivery during the first quarter of the coming year. The sales have been aggregating nicely of late and the new year will begin with a large start made on the probable make of the first three months of 1923. Quotations have ranged between \$23 and \$25 per ton, No. 2 foundry, but from other points come insistent reports that a better price has been obtained by consumers and that business was placed with guarantee of delivery. Announcements are made that large contracts have been obtained for various products by melters of pig iron and these needs are being covered in pig iron.

The production of pig iron is not to be disturbed during the holidays, steps having been taken looking to a full supply of raw material and to keep the labor forces intact.

Production and delivery are being given every attention. The December output at blast furnaces will be equal to November if not a little better, and there will be further reduction of the surplus stock of iron in this section. Eliminating the basic iron, the stock of foundry and machine cast pig iron on yards in Alabama is rapidly being cut down and is hardly more than a week's make now. Transportation facilities continue good, the railroads giving evidence of efforts to meet demands of the larger shippers for service after the long siege of spasmodic service.

Casual inspection of plans looking to future production shows two furnaces under relining process with schedule to begin making iron around the middle of January in Alabama; another furnace being repaired to be ready to replace another iron-maker belonging to the same company about to go out; a fourth furnace being made ready for early application of torch as the demand becomes more urgent. The charcoal-making furnace at Shelby is in shape again.

A short season of selling at low prices, under \$23 per ton, No. 2 foundry, even as low as \$21 per ton, by smaller companies of this district is still being commented on. No little Southern pig iron has been purchased by melters in the middle west, the Chicago, St. Louis and Cincinnati territories. Local consumers of pig iron, the smaller melters, three stove works, etc., have been buying in small lots with announcements of bright prospects. The stove foundries in the Birmingham district and in North Alabama, as well as in adjoining states, have enjoyed a good trade for the past several weeks and the future is bright.

Alabama's production of pig iron is around 209,000 tons a month. While furnace interests are not specifying tonnages in the selling impetus that has been enjoyed, contracts ranging from 500 to 15,000 tons soon aggregate. Many melters in the Illinois, Ohio and upper Kentucky territories have been dividing their business between Southern and Northern iron makers and thereby placed considerable business in this section.

Consensus of opinion among the pig iron manufacturers is that the probable make for the first six months will have been disposed of before the new year has progressed very far.

Cast iron pipe plants are shipping their product most liber-

ally, considerable new business being filled with the old contracts. Several lettings recently received by the pressure pipe makers of this district have added to the business in hand and as a consequence the winter operations this year are better in prior years. Pressure pipe prices are started at \$43. to \$43.50 per ton, 6-inch. size, but reports have it that concessions have been made on tonnages. The United States Cast Iron Pipe & Foundry Company, the American Cast Iron Pipe Company and the National Cast Iron Pipe Company are keeping their entire forces intact and steady work is still noted at the various plants. Including the Porto Rican order for 20,000 tons of pressure pipe, estimates are made that in the last two weeks no less than 35,000 tons of pipe lettings were directed this way and consideration will be on shortly for twice that amount more, delivery in the spring.

Coal mining activity will continue through the holidays, complete cessation of larger mining propositions being planned for two days of the holiday weeks, including the Sundays. Labor has intimated that there will be work at every opportunity. Production of coal in Alabama is still limited by the car supply. Domestic coal is in strong demand. Consumers of steam coal are looking for the lowest prices. Coal is now to be bought at prices much under what obtained a few months ago.

The coke market continues strong with prices around \$7.50 and \$8 for foundry coke. Transportation facilities for its handling show improvement also and the output is being moved steadily. Alabama coke is still moving to the southwest.

Pig iron and iron and steel scrap quotations follow:

#### PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnace, \$23.00 to \$25.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$23.50 to \$25.50; iron of 2.75 to 3.25 per cent silicon, \$24.00 to \$26.00; iron of 3.25 to 3.75 per cent silicon, \$24.50 to \$26.50; iron of 3.75 to 4.25 per cent silicon, \$25.00 to \$27.00; charcoal iron, f. o. b. furnace, \$32.00.

#### OLD MATERIAL.

Old steel axles.....	18.00	to	\$20.00
Old iron axles.....	18.00	to	20.00
Old steel rails.....	14.00	to	15.00
Heavy melting steel.....	13.50	to	15.00
No. 1 R. R. wrought.....	15.00	to	15.50
No. 1 cast.....	17.00	to	18.00
Stove plate.....	14.50	to	15.00
Old car wheels.....	16.00	to	18.00
Old tramcar wheels.....	16.50	to	18.50
Machine shop turnings.....	10.00	to	11.00
Cast iron borings.....	10.00	to	11.00
Cast iron borings (Chem.).....	15.50	to	16.00

#### Continuance of Heavy Traffic.

Loading of revenue freight on the railroads during the week ended December 2 totaled 845,219 cars, according to reports received from the carriers by the American Railway Association. Owing to the holiday of Thanksgiving Day on November 30 there was a drop of more than 110,000 cars in the total as compared with the previous week but it was over 103,000 cars more than were loaded during the corresponding week of last year.

Requisitions for freight cars over and above the current supply totalled 133,786 cars according to reports through the same channels of information. A surplus of 5595 freight cars in good repair was simultaneously reported, an increase of 289 for the week.

#### Sabotage Renewed.

Sabotage is again reported on the line of the Missouri & North Arkansas Railroad, according to dispatches from Chicago, saying that J. C. Murray, general manager, Harrison, Ark., has notified the United States Railroad Labor Board that sulphuric acid is being put in the water tanks, spikes are being pulled out of the track at curves, air hose on freight trains is being cut and emery dust is being put in journal boxes. Several months ago the road resumed operations after having experienced similar troubles in consequence of a strike.

## RAILROADS

### FRISCO BUYS EXTENSION TO THE GULF.

International & Great Northern With 1159 Miles of Line Added to System, Making Over 6400 Miles.

Plans for the union of the St. Louis-San Francisco Railway and the International & Great Northern Railroad systems, which were forecast three months ago, were confirmed last week in New York by the announcement from E. N. Brown, chairman of the Frisco system, that it had purchased control of the International & Great Northern, subject to the approval of the Frisco stockholders and also of the Interstate Commerce Commission. The sale of the International & Great Northern was made by its voting trustees, W. V. King, James Speyer and Frederick Strauss, subject to approval by a majority of the voting trust certificates. It is not, however, anticipated that any objections will be made to the consummation of the deal.

The agreement provides for the sale of the entire capital stock of the last named company, (\$7,500,000,) to the Frisco for a price which it is stated will be about \$26.75 per share. There is also an offer of a guarantee by the Frisco that interest on the adjustment bonds of the purchased road shall not be less than 3 per cent a year from 1924 to 1927 inclusive, but that holders of these securities in accepting this offer will agree to sell their bonds to the Frisco at 90 and accrued interest up to 1928 and thereafter at par and accrued interest.

Fulfillment of the merger plan will give the St. Louis-San Francisco Railway a total of more than 6400 miles of line. It now has 5256 miles reaching from Birmingham, Ala., to Memphis, Tenn., St. Louis and Kansas City, Mo.; going down through Oklahoma via Tulsa, Muskogee and other points to Denison, Fort Worth and Dallas, Tex., besides reaching many intervening towns and cities in the several states traversed, including Springfield and Joplin, Mo.; Fort Smith, Ark.; Wichita, Kans.; Oklahoma City, Okla., etc. Connection with the International & Great Northern system, which is at Fort Worth, gives it 1159 more miles of line reaching from there to Waco, Houston, Galveston and Freeport, Tex., both of the latter being on the Gulf of Mexico. The acquired line also reaches Austin, San Antonio, and Laredo, Tex., to the south and Palestine and Longview to the north, besides many points in between, all of this system being within the state of Texas. Thus the merger would not be that of competing lines, but of roads in entirely different territory for the new acquisition planned by the Frisco System is but a large extension of its radius of operations.

The equipment of the Frisco System includes 953 locomotives, more than 34,000 freight cars and about 700 passenger cars; the equipment of the International & Great Northern includes 183 locomotives, more than 4800 freight cars and 122 passenger cars. Each road also has a number of railway service cars in proportion to its mileage and extent of operations.

The International & Great Northern Railroad has been in a receivership since August 1914.

### Electrification Plans in Progress.

Dallas, Tex.—Engineers are working out plans for electrification of the 32-mile track of the Missouri, Kansas & Texas Railway between Dallas and Denton, Tex., according to C. W. Hobson of Dallas, head of the Southwest General Electric Company. Another change to be made is the installation of a block signal system, which is absolutely necessary with the line in use by both electric cars and steam-drawn trains. The electric interests will bear the entire cost of electrification, Mr. Hobson said.



## BIG RAILROAD MERGER IN VIEW.

### Chesapeake & Ohio Railway Control Sought by Van Sweringen Interests of Cleveland,

It was revealed in New York last week that negotiations are in progress looking to control of the Chesapeake & Ohio Railway System by the Van Sweringen interests of Cleveland, Ohio, which recently announced plans for the consolidation of the Lake Erie & Western Railroad, the New York, Chicago & St. Louis Railroad and the Toledo, St. Louis & Western Railroad of each of which O. P. Van Sweringen is chairman of the board of directors, it being contemplated, according to simultaneous reports, to merge the Chesapeake & Ohio Railway and the others into one large system of 4255 miles, the first three roads mentioned having an aggregate of 1697 miles and the latter 2558 miles. It was admitted that negotiations had begun between O. P. Van Sweringen and H. E. Huntington, chairman of the Chesapeake & Ohio, for the latter's stock which, it is understood, would at least go far toward controlling the latter system.

The Chesapeake & Ohio Railway runs from Newport News, Va., on Hampton Roads, via Richmond to Cincinnati and Chicago, including also a line to Louisville, Ky., and it also reaches Toledo, Ohio, over the Hocking Valley Railway which it controls. The other roads mentioned extend from Buffalo via Cleveland and Fort Wayne to Chicago, from Sandusky, O., to Peoria, Ill., Indianapolis, Michigan City, Detroit, Toledo, St. Louis and sundry points between those cities.

### Extensive Railroad Planned in Mineral Region.

The Colorado, Columbus & Mexican Railway, which will reach from El Paso, Tex., into New Mexico and Arizona, over 500 miles, will be operated by steam power and not electricity as was at first reported. John Phillips, Box 671 Wichita Falls, Tex., writes the MANUFACTURERS RECORD that the line will traverse the continental divide. From Columbus, N. M., it will go to Deming, Tyrone, Central, Alma, and thence northerly to Farmington, N. M., with branch lines to several points in New Mexico and others to El Paso, Tex., and Springerville, Ariz. The system will be 550 miles long. Steam locomotives will provide power and the main line will be laid with rails of not less than 80 pounds weight per yard and branches not less than 75.

"The route that will be traversed," says Mr. Phillips, "is one of the richest mineral belts in the world. One of the largest coal fields in the United States is on the route, besides other minerals such as copper, silver, gold, lead, zinc, iron, fluorite, manganese, potassium, salt, limestone, building and ornamental stones, gravel, and sand; also guano, oil, gas, valuable clays, cement marls, turquoise, meerschaum and asbestos. This is furthermore one of the greatest of timber and grazing regions.

"The company is incorporated for \$5,000,000 and it has asked for permission to issue \$20,000,000 in 5 per cent, first mortgage bonds. The officers and directors are George Estes, president; Walter Clark, secretary; Albert Fields, treasurer; and William R. Merrill, assistant secretary, all of Deming, N. M.; and John Phillips, authorized attorney and financial agent, of Wichita Falls, Tex., who will have complete charge of all financial and construction affairs."

### Orders Another Gasoline Passenger Car.

The Alabama, Tennessee & Northern Railroad Co., John T. Cochrane, president, Mobile, Ala., has obtained another railroad passenger, gasoline motor car from the Indiana Truck Corporation of Marion, Ind. and has placed it in service. It is equipped with a 75 horsepower engine. President Cochrane is reported as saying concerning the first car, which was bought last spring from the same builders: "It went into regular service on May 1 and has been in continu-

ous service seven days a week ever since with only two or three days of layoff for motor adjustment. Our patrons were so pleased with this motor coach and it increased their convenience and our revenue so that we were encouraged to buy a second car with a capacity of forty-eight passengers, (the first one carried thirty), and it also embodies improvements."

### Railroad Financing.

Missouri, Kansas & Texas Railway Co. has applied to the Interstate Commerce Commission for authority to take over the Texas lines of the system under the general reorganization plan and also for authority to issue \$51,260,500 of 6 per cent general mortgage bonds and \$1,400,000 of common stock. The road was purchased last week by the reorganization committee.

Application has been made to the Interstate Commerce Commission for authority to organize the Grayson, Nashville & Ashdown Railroad Co. and to issue \$300,000 of stock and \$300,000 of first mortgage and \$300,000 of second mortgage bonds, on the acquired line between Ashdown and Shawmut, Ark., formerly operated by the Memphis, Dallas & Gulf Railroad Co.

Final settlement by the government is reported with the Georgia, Florida & Alabama Railway to which was paid \$120,000, while the Kansas, Oklahoma & Gulf Railroad paid to the government \$1,400,000, according to a report from Washington.

Atlantic & North Carolina Railroad Co. has asked the Interstate Commerce Commission for authority to issue \$325,000 of 6 per cent twenty year bonds for refunding.

Ozark Southern Railway has been authorized by the Missouri Public Service Commission to issue \$50,000 of 6 per cent short term notes.

### Texas Panhandle Railroad Plan.

Wellington, Texas, Dec. 16.—[Special.]—Construction of a railroad across a 125-mile strip of the Texas Panhandle is being promoted by the Eastern Panhandle Railway Association which was recently formed here at a meeting of representative business men and land owners. The road is to run from Chillicothe, Tex., on the Fort Worth & Denver division of the Colorado Southern Railroad, to Canadian, Tex., where connection will be made with the Santa Fe system. The officers of the Association are: J. W. Mitchell, president; J. W. Debenport, secretary; both of Childress, Tex.; W. A. Palmer, Canadian; C. C. Small, Wellington, Tex., and Dr. H. H. Nicholson, Wheeler, Tex., vice presidents. It is stated that the proposed line would open to agriculture a rich part of the Panhandle.

### New Equipment.

Recent orders of railway equipment include the following: 100 tank cars for the Texas Company, from the General American Tank Car Corporation; 1 prairie type locomotive for the Louisiana Central Lumber Co., from the Baldwin Locomotive Works; and 1 ten wheel locomotive for the Georgia Northern Railroad from the American Locomotive Co.

Equipment inquiries reported in the market include 2000 box cars for the Baltimore & Ohio Railroad, 50 box cars of forty ton capacity and 50 flat cars for the Muscle Shoals, Birmingham & Pensacola Railway.

### Receivership Sale Announced.

The Fort Smith & Western Railway, according to a report from Fort Smith, Ark., is to be sold at auction on January 16 at 3 P. M. It has been in a receivership for seven years. The line is 275 miles long from Fort Smith to Oklahoma City and other points in Oklahoma.

## TEXTILE

### First Contract Let on \$500,000 Plant—Second Unit Later Will Bring Total to \$1,400,000.

Chattanooga, Tenn.—The Dixie Spinning Co. has awarded contracts for the first unit of the big, new plant now being built totaling \$500,000. At the same time it made known that a second unit to contain 10,000 spindles was being planned, and will probably be started after the completion of the first. Together the two units will have 23,000 spindles, and represent a total investment of \$1,400,000.

Announcement regarding the new contracts were made last week by Thomas Harrison, Secretary and Treasurer. The Whitin Machine Works of Whitinsville, Mass. secured the contract for the combers and all other machinery will be furnished by the H. & B. American Machine Co. of Pawtucket, R. I.

T. H. McKinney, Vice-President, has announced that the contract for 70 houses has just been placed.

### Rapid Expansion of Textile Industry.

The textile industry of North Carolina after a period of uncertainty is finishing the year with a spirit of optimism, and is looking forward with confidence to a steady return to normal conditions, according to Hunter Marshall, Jr., secretary and treasurer of the Cotton Manufacturers Association of North Carolina, who says:

"The last half of the present year has been marked by a vigorous resumption in mill building. North Carolina is easily leading not only the Southern states but all the states in the union in the number of new spindles it is installing and preparing to install. The State has led for some time in the number of cotton mills, and is now leading in the amount of cotton consumed.

"Several causes are contributing to the development of the textile industry here. Probably most important of all is the attitude of the public toward industry. Our people have seen and appreciated the part textile and other industries have played in the remarkable progress which North Carolina has enjoyed during recent years and they are distinctly friendly. Another factor is the availability of convenient, efficient electric power. Still another that is having a marked influence is the difference in the tax rate between this and most other cotton manufacturing states.

"There apparently is every reason why North Carolina should not only maintain its lead in the matter of new mill construction but even increase that lead."

### Textile Mill Notes.

The capital stock of the Erwin Cotton Mills Co. of Durham, N. C. has been increased from \$5,000,000 to \$10,000,000.

The Kesler Manufacturing Co. of Salisbury, N. C., has increased its capital from \$500,000 to \$1,500,000. E. A. Cannon is president of the company.

The Alpine Wollen Mills, recently organized with a capital stock of \$50,000 has taken over an old mill at Mt. Airy, N. C. and will manufacture blankets and slasher cloth yarn. R. H. Whitehead, Burlington, N. C., is president, and W. E. Lindsay, Mt. Airy, general manager.

The Fenveva Hosiery Mill, Bristol, Va., with a capital stock of \$75,000 is now producing 1000 dozen pairs of cotton hose daily, using 260 knitting machines. The officers of the company are as follows: R. S. Pennington, president; S. M. McCracken, vice president; and S. Bruce Jones, secretary.

The Entwistle Manufacturing Co., of Rockingham, N. C. plans the erection of a fireproof picker building after plans

by Robert & Co., Atlanta, Ga. T. C. Thompson Bros., Charlotte, have been awarded the contract.

Plans have been completed and work will start after the first of the year on an additional story to the dye house of the Union Bleachers at Greenville, S. C. A meeting of the stockholders will be held the latter part of December for the purpose of considering an increase of the capital stock to \$1,200,000. The Fiske Carter Construction Co. has the contract for the addition.

The Pinewood Knitting Mills plan establishing a knitting mill and factory in Hohenwald, Tenn. to employ 75 to 100 persons. The company is now operating factories at Pinewood and Waverly.

### Drop in British Cotton Goods Exports.

The unsatisfactory condition of the British cotton industry is reflected in a drop in cotton piece goods exports from 395,823,900 square yards in September to 353,654,000 in October, says the Department of Commerce. Though, in spite of this loss, exports for ten months of 1922 show an increase of 54.93 per cent in quantity over the same period of 1921, they are only 57.21 per cent of the exports of the same ten months of 1913.

The loss of such a large volume of pre-war trade can not be attributed wholly to present economic conditions. It is due in part to the fact that war-time necessity compelled many countries so to enlarge their own productive capacity as to supply home demands formerly dependent upon imports. This is particularly true of India, and in a somewhat lesser degree, of China and South America.

### Will Erect New Mill Building.

The Burnett Knitting Mills, located at French Broad, Tenn., recently organized with a capital stock of \$50,000 has announced plans for the erection of a new building 40 by 300 feet to cost \$25,000. It will be a brick structure to house 500 knitting machines; work is being undertaken by the company's own force. Plans call for the production of 500 dozen pairs of hose daily. Complete finishing, dyeing and other equipment will be installed at a cost of approximately \$50,000.

### Plans Branch Plant at Oxford, Miss.

Memphis, Tenn.—The United States Overall Company, according to P. R. Labuzan, Chattanooga representative, plans the establishment of a branch plant at Oxford, Miss. The plant will have ninety machines, and give employment at first to about 100 persons.

### Development Problems in Tonkawa Oil Field.

J. S. Ross, petroleum engineer and R. M. Carr, assistant petroleum engineer, of the Bureau of Mines, are gathering data for an engineering report on the Tonkawa field in Kay County, Oklahoma. Mr. Carr is now constructing a peg model of this field. The model will be made on a scale of 100 feet to one inch vertically and 200 feet to one inch horizontally and will show graphically the formations penetrated by the various wells, the depths to which they have been drilled, and also the casing records of the wells. After the model has been constructed and the important formations correlated, it will be placed on exhibition in the Tonkawa field and also at Ponca City, where most of the operators in that field have their headquarters. A map of the field has been completed and will be included in the report. There are 46 producing oil wells and 15 gas wells, and 47 wells are being drilled. From a development standpoint, the Tonkawa field is one of the most active fields in Oklahoma, says the Bureau. The present production of oil is about 22,000 barrels per day.

# LUMBER AND BUILDING MATERIALS

## Lumber Orders and Shipments Gain, Though Production Slightly Decreases.

Washington.—True to seasonal form, the lumber industry reports further curtailment of production for last week, but the facilitation of shipments has resulted in a larger volume of shipments and is presumably reflected in the still larger increase in new orders. Yet the decline in production is so slight as to represent a lesser margin than is accountable for by lack of reports from California white and sugar pine mills and the climatically enforced shutting down of some mills in the northern regions. Only 377 mills are in the reporting list of the National Lumber Manufacturers Association, as compared with a revised number of 403 for the preceding week.

With production lagging a little on the whole, it is not surprising, says the Association, to find that for all the reporting mills of the various regional softwood associations shipments are 102 per cent and orders 101 per cent of production. In Southern pine territory, which has partially broken the transportation impasse, shipments are 2 per cent and orders 9 per cent more than production, though there was a slight increase in the last item. The West Coast mills seem to have improved their commercial position, too, as compared with recent weeks. While they too, have a moderate increase of production, their shipments have risen to 99 per cent of production, as compared with 80 per cent for the preceding week; and orders on the same basis have risen from 80 per cent to 90.

For the 351 mills of those reporting that have a normal production figure for the week—it being 220,993,177 feet—actual production was 91 per cent, shipments 91 per cent and orders 90 per cent of normal production.

The North Carolina Pine Association reports that its member mills find a shortage of labor, and that the holiday spirit among the colored laborers will adversely affect production from December 20 to January 10. In this territory—North and South Carolina and parts of Georgia and Alabama—the car supply is reported to be much improved, and up to 75 per cent of requirements. These mills find that while the demand for housebuilding lumber has fallen off "railroad requirements have more than taken up the slack."

Mills	Last Week 377	Corresponding Week 1921 373	Preceding Week 403 (revised)
Production .....	207,177,046	176,554,176	214,299,916
Shipments .....	211,367,984	155,405,188	199,993,649
Orders .....	209,666,470	146,953,064	195,214,701

It will be noticed that production, shipments and orders for the past week, especially the last two factors, are very much larger than for the corresponding week of 1921.

For 49 weeks of 1922, as compared with the same weeks of 1921, the figures are as follows:

	Production	Shipments	Orders
1922 .....	10,885,800,646	10,227,838,942	10,986,979,291
1921 .....	7,814,620,412	7,885,151,004	8,082,436,728
1922 Increase .....	3,071,180,234	2,342,687,938	2,904,543,563

## LUMBER MOVEMENT FOR 49 WEEKS, AND FOR THE WEEK ENDING DECEMBER 9.

	Production		Shipments		Orders	
	1922	1921	1922	1921	1922	1921
Southern Pine Association, Total.....	3,636,827,029	3,455,912,601	3,525,837,299	3,636,374,164	3,691,701,710	3,616,261,697
Week (125 mills).....	73,575,016	76,934,693	74,992,160	67,184,980	79,916,844	56,079,324
West Coast Lumbermen's Association, Total...	4,188,687,396	2,625,442,079	3,847,858,512	2,664,168,233	3,941,377,511	2,723,259,156
Week (141 mills).....	93,680,268	68,294,904	92,430,681	49,391,720	84,052,293	60,986,386
Western Pine Manufacturers Association, Total	1,164,980,000	692,473,082	1,143,245,000	697,012,728	1,177,706,000	708,825,000
Week (35 mills).....	16,987,000	9,763,000	18,175,000	16,245,000	17,500,000	16,600,000
California White & Sugar Pine Mfrs., Total...	526,243,000	327,479,000	343,396,000	251,061,000	815,092,000	421,188,000
Week .....	no report	1,499,000	no report	2,754,000	no report	2,293,000
California Redwood Association, Total.....	394,873,000	287,969,000	346,630,000	211,797,000	369,225,000	211,820,000
Week (15 mills).....	10,742,000	8,035,000	8,097,000	7,590,000	8,762,000	5,245,000
North Carolina Pine Association, Total.....	469,986,843	334,305,650	478,175,027	325,931,879	471,466,070	313,947,875
Week (35 mills).....	8,085,762	11,168,579	7,360,969	10,580,488	9,482,833	4,763,354
Northern Hemlock & Hardwood, Total.....	98,090,000	91,039,000	137,758,000	98,806,000	124,185,000	87,135,000
Week (17 mills).....	1,371,000	859,000	1,874,000	1,639,000	1,508,000	986,000
Northern Pine Manufacturers Assn., Total...	406,113,378	404,930,104	404,930,104	8,438,174	396,232,000	8,445,000
Week (9 mills).....	2,736,000					
General Total for 49 weeks.....	10,885,800,646	7,814,620,412	10,227,838,942	7,885,151,004	10,986,979,291	8,082,436,728
General total for week .....	207,177,046	176,554,176	211,367,984	155,405,188	209,666,470	146,953,064

## Timber Costs and Slacker Acres Our Forest Problem, Says Colonel Greeley, of the Forest Service.

Every year makes the forest problem of the United States more clear according to Colonel William B. Greeley in the annual report of the Forest Service of the Agricultural Department.

The problem, he says, has two main features. The first is the rising cost of timber products, due primarily to heavier transportation charges from more and more distant sources of supply. The cut of lumber is decreasing in all the Eastern States; in practically every State west of the Great Plains it is increasing. The large sawmills of the country are in full migration westward to the last great virgin timber supply on the Pacific coast. During the past 30 years the pineries of the South have been the mainstay of the densely populated Central and Eastern States for the softwood lumber used in building, in general construction and in many manufactures. Their cut is dwindling. Every year scores of sawmills are dismantled.

The rapid increase in lumber shipments through the Panama Canal foreshadows the time, in the near future, when the principal source of softwood lumber for the entire nation will have shifted to the west coast says Col. Greeley, and the average freight cost paid by the home builder or manufacturer will have advanced to a new and higher level.

When the coniferous virgin timber of the far West is exhausted in its turn, if the principal source of supply shifts to Siberia or South America the transportation conditions which control the present lumber market will become different only in degree. Further, as the sources of supply become more restricted and more distant from the principal centers of consumption, opportunities for competition are lessened; and temporary shortages due to bad seasons, labor troubles, or congestion of transportation facilities are more probable and more severe.

Thus the conditions of the trade become more favorable to monopolistic control, to violent market fluctuations, and to high prices. And timber is a basic raw material, as widely used and as necessary to national existence as coal.

The second feature of the problem is the unproductive condition of immense areas of land which are not adapted to agriculture.

The amount of unproductive land left in the wake of the sawmills or abandoned by the farmer has assumed enormous proportions. Our merchantable timber is being cut at the rate of four or five million acres annually, and enormous areas of logged-off land have accumulated which are not fit for cultivation but on which little or no new timber is being grown. The extent to which these millions of acres of idle land have been swelled by the ebbing tide of cultivation in many States is not generally realized. In 18 of the Eastern



and East Central States the improved farm land shrank at the rate of 800,000 acres a year.

There can be no question as to the steady shrinkage in the cultivated area of a considerable number of the oldest and most populous States and the consequent lapse of large areas of land into partial or complete idleness, the report continues. What to do with unused and unproductive land is one of the most fundamental economic and social problems of the United States.

Including burned and cut-over areas and abandoned fields which once grew timber, one-third of the soil of the Union is forest land. And three-fourths of it lies in the Mississippi Valley and eastward to the Atlantic Coast, in the very States having the densest population and the largest consumption of timber products. Over 40 per cent of New York and Pennsylvania is forest land. Seventy-five per cent of Maine and of New Hampshire is forest land. From 45 to 70 per cent of the area of each of the South Atlantic and Gulf States is forest land.

The use of these vast areas of nontillable land for growing successive crops of timber would kill two birds with one stone. It would insure ultimately a supply of forest products adequate for all national requirements; and it would go far toward maintaining a virile rural population and stable rural communities in the regions of inferior soil and limited agriculture.

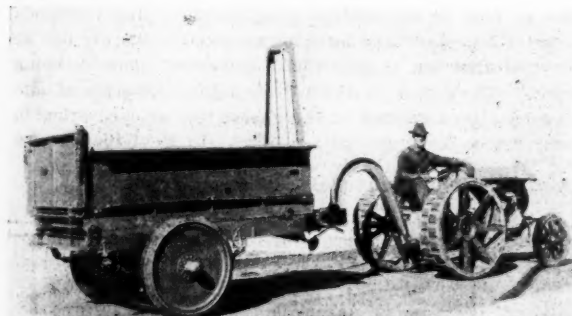
The working out of a vast economic problem of this character will necessarily require a long time and can be only partly accomplished or influenced by public action, concludes the report.

## MECHANICAL

### New Trailer and Tractor Outfit.

A new dump trailer for contractors' use in connection with a Fordson tractor is shown in the picture herewith. It is built in a most substantial manner and is so designed that the distribution of the load enables the tractor to pull it easily and the trailer to carry it without undue strain, assuring long life to the entire outfit. The builders, the Virginia Truck Body Company, 19 South Linden Street, Richmond, Va., state that the outfit has been tried out thoroughly in that locality and has been approved heartily by all who have used it. Only the best materials are used in its construction.

The trailer body is made of 10 gauge steel heavily reinforced and hot riveted throughout. Its outside measurements

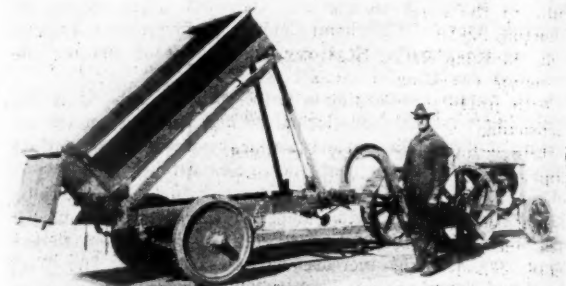


TRAILER AND TRACTOR READY FOR THE ROAD.

are 96 inches long, 54 inches wide and 18 inches deep and its capacity is two cubic yards water level. It is equipped with manual and double acting tail gate so that in addition to material which can be dumped the trailer will carry lumber

or other long articles. When the tail gate is down 18 inches of length are added to the body. The tops of the sides are flared outwards, giving additional strength to the body and the square bottom corners adapt it for hauling brick, concrete blocks, tile, etc. The hoist is of sufficient power to handle the load with ease and it has a ratchet to hold the load in any position they may be desired. There is a brake to control the body and at the same time permit it to be lowered quickly under perfect control.

The hitch, or connection with the tractor, is of the goose-neck type which allows the tractor wheels to cut under so



TRAILER BODY ELEVATED FOR DUMPING.

that a turn can be made anywhere without backing. Every thing is included for making the attachment. Moreover, the trailer has an adjustable screw stand to steady it in a horizontal position when it is not in use and this device also regulates the height of the front end when it not attached to the tractor. Coupling up is therefore made easy for one man. There are four anchor blocks on chains attached to the frame and used for blocking wheels. The capacity of the trailer is 5000 pounds but it will take overload of 50 per cent. Its weight is about 3500 pounds. The price is moderate.

### Three North Carolina Road Bids Total \$475,000.

Raleigh, N. C.—Bids were received by the North Carolina State Highway Department on December 14 for three projects involving the expenditure of more than \$475,000.

The low bids were as follows:—Project 138-B, Halifax-Northampton counties, a bridge and trestle over a mile long between Scotland Neck and Rich Square on route No. 125 over the Roanoke River-Pensacola Shipbuilding Co., Pensacola, Fla., at \$349,688; Project 201, 13 miles of soil road in Carteret County between Beaufort and Craven county lines on route No. 10—Duplin Construction Co., Warsaw, N. C., at \$49,273; structures on this road—Batson-Cook Co., West Point, Ga., at \$24,956; Project No. 256—three bridges on route No. 10 in Lenoir county, Englehardt & Kuehn, Camp Bragg, N. C., at \$52,553.

### Bids on Three Highway Projects in Virginia.

Richmond, Va.—Bids were received on December 14 by the State Highway Commission for three projects as follows:

The Spotsylvania Construction Co., Highland Springs, Va., low bidder on Project 205, reinforced concrete highway near Fredericksburg, at \$336,127. B. P. Ellison, Fredericksburg, engineer in charge.

W. W. Boxley, Roanoke, Va., submitted a low bid of \$215,643 for Project 169 of bituminous macadam. T. F. Loughborough, Staunton, Va., is the engineer in charge.

Overstreet & Vance, Bedford, Va., submitted a low bid of \$202,000 for Project 186, a concrete road, 18 feet wide. C. L. Scott, Lynchburg, is the engineer in charge.

# Construction Department

## EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

## DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

### Airplane Plants, Stations, Etc.

Ga., Atlanta—Hangars—Atlanta Air Bd., Van H. Burgin, Chrmn., reports Government will erect hangars on Watkins field.

### Bridges, Culverts and Viaducts.

Ala., Opelika—For full details see Road and Street Construction.

Arkansas—For proposal details see Mch. Wanted—Road and Bridge Construction.

Ark., Mountainburg—For proposal details see Mch. Wanted—Bridge Construction.

Mch., Riverdale, P. O. Lepanto—For proposal details see Mch. Wanted—Culvert Construction.

Fla., Gainesville—For proposal details see Mch. Wanted—Bridge Construction.

Fla., Jacksonville—Duval County Comms., Chas. A. Clark, Chrmn., let contract to W. G. Brennan Co., at \$6245, to repair 3 steel bridges, two on Atlantic Blvd., over Pottsborg and Pablo Creeks, one over Six Mile Creek, on Lem Turner road. (Lately noted.)

Fla., Port Richey—Pasco County Comms., let contract to Marshall Jackson Co., Lakeland, Fla., at \$8740 to build steel lift bridge over Pithlashascotee River.

Fla., Tavares—For full details see Road and Street Construction.

Ga., Augusta—Dept. of Public Works, Streets and Drains Committee, will receive bids until Dec. 16 to construct 2 following:—100-ft. Greene St. bridge, near Margaret Wright Hospital; 60-ft. Jackson or 8th St. bridge; W. H. Wise, City Engr.

Ga., Augusta—State Highway Dept., Atlanta, will receive bids until Dec. 15 for following:

Treated timber bridge, 1207 ft. long; Cont. No. 1; 107,059 F. B. M. treated and 96,560 F. B. M. untreated timber; 8260 lin. ft. treated piles.

4322 lin. ft. earth embankment with sand clay surfacing; Cont. No. 2 Richmond County, 3 mi. east of Augusta; Georgia Federal Aid Proj. No. 302; W. R. Neel, State Highway Engr.

Missouri—State Highway Dept., Jefferson City, Mo., plans constructing 58 reinforced concrete and steel bridges on state roads, as follows: Bollinger County, Marble Hill to Advance, F. A. Proj. No. 208; Callaway County, Fulton to St. Louis, F. A. Proj. No. 144; Dunklin County Kennett to Hayti, F. A. Proj. No. 212; Green County, Springfield to Ozark near Galloway, F. A. Proj. No. 162; Henry County, Warrensburg to Clinton, F. A. Proj. No. 127; Howell County, Willow Springs to Mountain View, F. A. Proj. No. 138; Madison County, Ironton to Fredericktown, F. A. Proj. No. 203; Saline County, Marshall to Arrow Rock near Marshall Junction, F. A. Proj. No. 16; Texas County, Cabool to Houston, F. A. Proj. No. 90 C; Gentry County, Stanberry to Albany, F. A. Proj. No. 37 B and 5785; Iron County, Iron-

ton to Salem, F. A. Proj. No. 193; Newton County, Granby to Monett, F. A. Proj. No. 155; Phelps County, Rolla to Houston, F. A. Proj. No. 110; Platte County, Kansas City to Parkville, F. A. Proj. No. 48; Randolph County, Moberly to Centralia, F. A. Proj. No. 44 B; Ripley County, Doniphan to Poplar Bluff, F. A. Proj. No. 206; Vernon County, Nevada to El Dorado Springs, F. A. Proj. No. 224; Callaway County, Fulton to Calwood, F. A. Proj. No. 20,227; Cass County, Pleasant Hill to Strassburg, S. A. Proj. No. 20,174; De Kalb County, Maysville westward, S. A. Proj. No. 20,203; Johnson County, Warrensburg to Clinton, S. A. Project, No. 20,200; Stone County, Crane to Galena, F. A. Proj. No. 161 B; Dunklin County, Kennett to Poplar Bluffs, F. A. Proj. No. 221.

Mo., Bethany—For full details see Road and Street Construction.

Mo., El Dorado Springs—State Highway Dept., Jefferson City, Mo., approved plans for Belvoir Bridge over Osage River.

Mo., Jackson—For full details see Road and Street Construction.

Mo., Kansas City—Kansas City Viaduct & Terminal Co., Sam W. Sawyer, Genl. Counsel, plans building Chestnut St. viaduct, connecting northeast section with East Bottoms industrial district.

Mo., Mt. Sterling—State Highway Dept., Jefferson City, Mo., let contract to Wausau Iron Works, Wausau, Wis., at \$109,000 to construct bridge over Gasconade River, near Mt. Sterling. (Lately noted.)

Mo., Poplar Bluff—Butler County Comms. Court will build bridges across drainage ditches in Inter-River Drainage Dist.

N. C., Asheville—City and Buncombe County Comms., let contract to Howerton-Tirsway Co., Asheville, to widen West Asheville bridge; County and Fed. Aid, each to pay half.

N. C., Scotland Neck—State Highway Dept., Raleigh, N. C., let contract to Pensacola Shipbuilding Co., Pensacola, Fla., at \$349,688.74, for one mi. bridge and trestle between Scotland Neck and Rich Square, over Roanoke River, Halifax-Northampton Counties, Proj. 138 B; Lenoir County, Proj. No. 256; 3 bridges on Route No. 10, Lenoir County; low bidder, Englehardt & Kuehn, Camp Bragg, N. C., at \$52,553; structures on Proj. No. 201 awarded contract to Batson-Cook Co., West Point at \$24,956.30.

N. C., Shelby—For proposal details see Mch. Wanted—Bridge Construction.

Okl., Sallisaw—Sequoyah County Comms. approved plans for building bridge over Deep Branch Creek; also approved building road connecting Illinois River and Deep Creek bridges; County and Fed. Aid, each to pay half.

S. C., Carlisle—Union County Highway Comsn., Fishdam Township, will build approaches and abutments for bridge over Sea-

board Air Line Ry., near Carlisle, on Calhoun Highway.

S. C., Orangeburg—Orangeburg County Highway Comsn., will build 2 reinforced concrete bridges. For proposal details see Machinery Wanted—Bridge Construction.

S. C., Spartanburg—Spartanburg County, P. F. Patton, Highway Engr., plans building 2 road bridges over C. & W. C. R. R. on State Highway to Woodruff.

Tex., Colorado—Mitchell County plans rebuilding and improving bridge over Lone Wolf Creek, on Bankhead Highway, F. A. Proj. No. 310; \$19,950; J. C. Hall, County Judge; Frank B. Du Bose, County Engr.

Tex., Dallas—H. R. Davis, Mayor, plans constructing 2 bridges in Davis Park.

Tex., Kerrville—For full details see Road and Street Construction.

Virginia—State Highway Comsn., H. G. Shirley, Chrmn., received low bids for 10 bridges as follows: on Fredericksburg-Spotsylvania Courthouse route; 30-ft. span concrete bridge over Massaponax Creek, and 40-ft. concrete bridge over Ny River; Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., at \$11,557.04; Over Appomattox River, Prince Edward County, Pittsburgh-Des Moines Steel Co., at \$22,240.07; for approaches to bridge, G. R. Sanderson, Cartersville, at \$26,105.76; 7 bridges on road between Blue Ridge Church and Tinker's Creek, H. A. Donald Co., at \$41,419.95. (Lately noted.)

Virginia—For proposal details see Mch. Wanted—Bridge Construction.

### Canning and Packing Plants.

Ala., Tuscaloosa—George Morgan let contract for erection of slaughter house; cost \$10,000; later plans to establish complete packing plant.

Ga., Thomasville—Thomasville Canning & Preserving Co. will construct plant.

Tenn., Memphis—Cudahy Packing Co., 23 Calhoun St., will expend \$10,000 in repairs and improvements.

### Clayworking Plants.

Ala., Tuscaloosa—Thress Brick Co., capital \$25,000, inceptd. with H. Jones, Prest. and Treas.; J. H. Thress, V.-P. and Gen. Mgr.; G. A. Swim, Secy.; will construct plant to consist of 6 permanent round-up draft kilns and 10 large dry sheds with capacity of 600,000 brick; will construct railroad siding and install special equipment for river transportation of bricks.

Tenn., Oliver Springs—Oliver Springs Brick Co. will increase capital to \$75,000.

### Coal Mines and Coke Ovens.

Ky., Emma—Winchester Coal Co., N. M. White, Jr., Prest., Prestonburg, Ky. (lately noted having plant improvements under construction) has 175 acres coal land under development, daily output 8 cars; will install

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steam hoist. (See Machinery Wanted—Hoist (Steam).)

Ky., Middleboro—Clear Fork Coal Co., capital \$150,000, inceptd. by S. M. Reams, B. T. Milam and G. T. Anderson.

Ky., Mogg, P. O. Moorman—Green River Fuel Co., capital \$20,000, inceptd. by Carl A. Reils, L. D. Shearer and John R. Barrett.

Ky., Spring Lick—Spring Lick Coal Co., capital 25,000, inceptd. by Carlos H. Givan, George W. and Anna Heheman.

Ky., Whitesburg—Baum Coal Co., capital \$300,000, inceptd. by W. G. Denning, C. P. Munch and R. J. Edwards; plans developing coal lands in Eastern Kentucky.

Mo., Cumberland—Brydon Brothers Coal Corp., Liberty Trust Bldg., capital \$800,000, inceptd. by Harry G. Fisher, Harold K. Wood and D. Lindley Sloan.

Mo., Huntsville—Mitchell Lovell Coal Co., capital \$9000, inceptd. by W. E. Mitchell, A. D. and E. B. Lovell.

Mo., Sedalia—Penrod Coal & Mining Co., (lately noted inceptd., capital \$30,000) has under development 170 acres coal land; mchy. all purchased and installed.

Mo., St. Louis—Curran Coal Co., capital \$10,000, inceptd. by G. W. Curran, W. H. Hubell and E. A. Blaydes.

Va., Norfolk—W. H. Brown Coal Co., Citizens Bank Bldg., organized by W. H. Brown, has taken over lease of Jewett, Bigelow & Brooks; plans for mining operations not completed.

Va., Splashdam—Fall Branch Corp., R. C. Snipes, Secy., Johnson City, Tenn., has 300 acres of coal land under development with daily capacity 200 tons. (Lately noted in reported, capital \$20,000.)

W. Va., Bluefield—Coal River Collieries Co., Harry Leaberry, Prest., let contract for electrical mining equipment, including 18 mine locomotives and 5 complete sub stations, approx. cost \$150,000.

W. Va., Charleston—Central Coal Mining Co., acquired 800 acres coal land along Ohio river, south of Bellaire; plans doubling present output.

W. Va., Hartford—Hartford Fuel Co., capital \$100,000, inceptd. by S. A. Moore, Charleston, W. Va.; J. D. Smith, Hamlin, W. Va. and others.

W. Va., Red Jacket—Red Jacket Consolidated Coal & Coke Co., H. T. Wilson, Prest., 919 Book Bldg., Detroit, Mich.; Wm. N. Cummins, Mgr., Red Jacket; is developing 12,000 acres coal land, daily output 3000 tons. (Lately noted.)

W. Va., Wheeling—Wheeling Coal Co.,

inceptd. by Edgar Aaron, A. J. Gilleland and G. A. Blackford.

W. Va., Wood County—H. R. Greist, Ebensburg, Pa., has secured options on 5000 acres coal land.

### Concrete and Cement Plants.

Ala., Montgomery—Massey Concrete Products Co., Peoples Gas Bldg., Chicago, Ill., reported to establish branch plant; expend from \$50,000 to \$75,000 on offices, mixing plants, drying and piling sheds, loading platforms; mfr. concrete pipe for railroads, etc.

Mo., Continental, mail Afton—Alpha Portland Cement Co., G. S. Brown, Prest., Easton, Pa., acquired plant of Continental Portland Cement Co., with office in St. Louis, Mo.; will expend about \$500,000 on improvements, increasing daily capacity from 3200 bbls. to 4500 or 5000 bbls.

### Cotton Compresses and Gins.

Okla., Claremore—Chelsea Gin Co., A. J. Frealey, Mgr., Chelsea, Okla., will construct cotton gin and erect buildings, 20x71, 20x30 and 24x24 ft.; frame, iron clad; daily output 40 bales; will install gin machinery to cost about \$7000; construction by owner. Lately noted. (See Mchy. Wanted—Cotton Gin Rig.)

Tex., Bishop—John J. Butler & Sons will rebuild burned cotton gin.

### Drainage Systems.

Miss., Lexington—Holmes County Board of Supvrs., plan forming drainage district, known as Cicopa Drainage Dist. of Holmes County.

N. C., Bolton—F. I. Finkensteadt, Prest. of Wacimaw Lumber Co., and H. T. Dillon, 38 S. Dearborne St., Chicago, Ill., reported interested in organizing drainage system; district will have frontage of 2 mi. on Lake Wacimaw.

### Electric Light and Power Plants

Ark., Cotter—Empire District Electric Co. has been granted preliminary permit by Federal Power Comsn., for construction of plant to cost \$15,000,000; dam will be 175 ft. high with span of 1500 ft. and will back White River up to Beaver, Ark. and James River to point near Galena, Mo.; will form lake approx. 8-mi. on both rivers.

Fla., Marianna—G. N. Thomas has acquired site on Chipola River and will develop 3000 H. P.; will construct concrete dam; furnish electric power to factories and for lighting purposes.

Fla., Orange Park—Frank H. Owens, Com-

msr. of Public Utilities, Jacksonville, Fla., contemplates extending high tension line from Jacksonville to Orange Park.

La., New Orleans—For full details see Land Developments.

Mo., Chestertown—Thompson & Lathrop of Phila., Pa., purchased Chestertown Electric Light Co.'s plant; will install additional mchy.

Miss., Monticello—McCormick Power & Development Co., capital \$20,000, inceptd. by Eugene McCormick, Charles McCormick, A. L. Banning, Jr.

N. C., Asheville—For full details see Land Developments.

Okla., Muskogee—For full details see Land Developments.

Tenn., Cleveland—Hiwassee Light & Power Co., increased capital to \$10,000.

Tex., Elgin—Walter Ayres of Austin, purchased plant of Elgin Light, Power & Ice Mfg. Co.

Tex., Raymondville—Raymondville Light, Power, Water & Ice Co., capital \$40,000, inceptd. by C. A. Cripe, R. E. Harding, Sarah K. Gill.

Va., Tappahannock—City voted \$15,000 bonds for light and water plant. Address The Mayor.

W. Va., Weston—Weston Electric Light, Power & Water Co. will increase capital to \$300,000; will improve plant.

### Fertilizer Factories.

Fla., Zellwood—Florida Humus Co., capital \$200,000, inceptd. with John A. Hayes, Prest.; Robt. J. Rosenthal, V. P.; Michael J. Perez, Secy.

Fla., Zellwood—The Alpha Co., capital \$200,000, inceptd. with John A. Hayes, Prest.; Robt. J. Rosenthal, V. P.; Michael J. Perez, Secy.

Mo., West Plains—W. R. Ross of National Rendering Co. of Kansas City, will erect reduction plant to mfr. soap grease, tankage and fertilizer from West Plains Serbm Co.'s plant on Lincoln Ave.

### Flour, Feed and Meal Mills.

Ga., Augusta—Atlantic Milling Co., capital \$50,000, inceptd. by Frank H. Barrett, Thos. Barrett, Jr., Alfred M. Martin.

La., New Iberia—Teche Rice Milling Co., H. N. Sherburne, Prest., has leased plant of Carvers' Teche Rice Milling Co. will probably purchase building later and will purchase additional rice milling mchy. (See Mchy. Wanted—Rice Milling Mchy.)

Mo., Kansas City—Schrieber Feed Mfg.

## OPPORTUNITIES FOR NEW BUSINESS

THROUGH THE

## DAILY BULLETIN

Manufacturers of Machinery and Equipment, Dealers in Railroad and Contractors' Supplies, as well as Architects, Contractors and Builders, find it very profitable to follow up the advance news furnished through our DAILY BULLETIN EVERY BUSINESS DAY IN THE YEAR. It is an authoritative, prompt source of information concerning every industrial and railroad undertaking of any consequence, and likewise all important building operations and municipal improvements in the whole South. The opportunity of getting in correspondence with firms that are in the market is afforded by a daily perusal of its columns.

MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



& Cereal Co., capital \$200,000; incptd by C. T. Schrieber, E. F. and J. J. Schrieber.

Tex., Greenville—Greenville Mill & Elevator Co., O. Richler, Gen. Mgr., contemplating erection of plant.

Tex., Houston—Montgomery Co., capital \$20,000, incptd. by Shelley Montgomery, B. C. Dissen, H. O. Schneider.

### Foundry and Machine Plants.

Ala., Birmingham—National Cast Iron Pipe Co. will increase capital from \$500,000 to \$1,000,000. (Lately noted.)

Ky., Louisville—National Forge Co., capital \$75,000, re-organized with Whitefield Clark, Prest., Anniston, Ala.; W. H. Bowman, Jr., Secy. Treas., Louisville; will erect 60x120 ft. plant on 13th St.; specializing in mfrs. of heat-treated knuckle pins, brake shoe keys, etc.; removing plant from Anniston, Ala.

N. C., Charlotte—Cotton Mill Machinery—Southern Spindle & Flyer Co., Inc., Wm. H. Monty, Prest., will erect 50x120-ft. machine shop, brick construction; approx. cost \$20,000; increased capital to \$115,000; mfrs. and over-haulers of cotton mill machinery.

Okla., Bartlesville—American Metal Co., J. B. Beatty, Secy. Treas., 61 Broadway, N. Y. reported to make plant improvements, increasing facilities of the smelters.

S. C., Columbia—Tozer Engine & Iron Wks., capital \$100,000, incptd. with T. P. Knox, Prest. Treas.; T. F. Diav, V. P. and Secy.

Tex., Nacogdoches—Implements—Universal Cultivator Co., incptd. by G. A. Blount, T. E. Baker and R. S. Jordan; mfrs. tongueless walking cultivator.

Va., Portsmouth—American Brake Shoe & Foundry Co., 30 Church St., New York, reported to erect factory near Deep Creek on Norfolk & Portsmouth Belt Line R. R.

Va., Petersburg—George W. Harrison Co., capital \$50,000, incptd. with Harry Yoeman, Prest., William Hitchcock, Secy.

### Gas and Oil Enterprises.

Ark., Camden—Duho Oil Co., capital \$1,000,000, incptd. by E. B. Cawthon, R. O. Dulaney, F. J. Holmes.

Ark., Magnolia—H. C. Owen, Gen. Mgr. of Haynesville Gas Co., Haynesville, La., applied for franchise to construct pipe line from Haynesville field to Magnolia.

Ky., Scottsville—Massey Oil & Refinery Co., organized with W. E. Massey, Louisville, Prest. will take over the plant, pipe line, etc. of Massey Refining Co. (Lately noted.)

La., New Orleans—For full details see Land Developments.

Md., Baltimore—Consolidated Gas & Electric Co. reported to construct addition to Front St. distributing station.

Md., Baltimore—American Oil Co., American Bldg. will construct 9 steel tanks at Curtis Bay site; construction by owner.

Md., East Brooklyn, Sta., Baltimore—Luter-Ocean Oil Co., will rebuild gasoline storage tank, lately burned at loss of \$50,000.

Md., Easton—City voted \$17,000 bonds for purchase of gas plant of Kitmiller Bros., of Phila., Pa. (Lately noted.)

Okla., Chickasha—R. B. Ferris of Drumright, Okla., and others interested in constructing natural gas pipe line 14 mi. long, from city to Grady County gas fields; P. C. Stacy and J. W. Comer of Chamber of Commerce, local sub-committee.

Okla., Depew—Watson Co., capital \$10,000, incptd. by Harry L. Skelly, of Tulsa; James K. Watson, Depew.

Okla., Enid—Boline Refining Co., increased capital from \$200,000 to \$1,000,000.

Okla., Henryetta—Eagle-Picher Lead Co. is constructing 4 mi. pipe extension to high pressure gas mains.

Okla., Paden—Paden Oil Products Co., capital \$15,000, incptd. by T. Veith, G. B. Aldridge, T. C. Hatcher.

Okla., Tulsa—Chestnut & Smith increased capital from \$2,000,000 to \$3,000,000.

Okla., Tulsa—Damon Oil Co., increased capital from \$50,000 to \$1,000,000.

Okla., Tulsa—Pulaski Oil Co., increased capital from \$50,000 to \$3,000,000.

Tex., Beaumont—L. J. Tillery Oil Co., capital \$55,000, incptd. by L. J. Tillery, J. D. Campbell, C. G. Hooks.

Tex., Electra—Electra Petroleum Co., capital \$35,000, incptd. by W. B. Babcock, A. Fisher, R. E. Scheurer.

Tex., Sincio, P. O. Houston—Sinclair Refinery Co., reported to enlarge refinery on Houston ship channel.

W. Va., Bluefield—Crescent Gas & Oil Co., capital \$250,000, incptd. by J. T. Walker, R. E. Shirey, R. S. Ritz; contemplate putting in 50 service stations, and 20 storage tanks. (See Mch. Wanted—Tanks (Storage); Tanks (Service); Pumps).

W. Va., Charleston—Straughan Oil & Gas Co., incptd. by D. E. Lloyd, O. O. Older, A. W. Halz.

W. Va., Huntington—South Point Oil Co., capital \$350,000, incptd. by L. H. Lipsey, G. B. Reinhart, B. B. Lovins.

W. Va., Huntington—Keystone Carbon Co., capital \$2,000,000, incptd. by P. W. Scott, H. T. Lovett, H. Blaidell.

### Ice and Cold-Storage Plants.

Ala., Glover—Juliette Milling Co., Juliette, Ga. reported to build ice plant.

Fla., Wauchula—Hardee County Ice & Storage Co., capital \$50,000, incptd. with Ceylon R. Bostick, Prest.; Arthur C. Schenck, Secy.

Ga., Augusta—Ellis Ice & Coal Co. let contract to A. M. Banks to erect ice and storage plant, brick construction, estimated cost \$10,000.

Md., Baltimore—American Ice Co., William H. Oler, Local Mgr. will erect 150 ton daily capacity ice plant on Eden St., also build store house, 10,000 tons capacity.

Mo., Paris—City is having plans prepared for ice plant; voted \$22,000 bonds. Address The Mayor. (Lately noted.)

Okla., Oklahoma City—New State Ice Co., Carl S. Glitsch, Mgr., let contract to Campbell & Price at \$35,000 to erect 128x125-ft. additional plant 17 West 2nd St., brick construction; increasing plants daily capacity to 265 tons; will install Arctic-Ponell system, electrically driven; will sink 700 ft. well to furnish approx. 500 gal. per min. (Lately noted.)

Tenn., Memphis—Tennessee Ice & Coal Co., increased capital to \$150,000, changed name from Tennessee Ice & Cold Storage Co.

Tenn., Memphis—Valley Ice & Coal Co., increased capital to \$150,000.

Tex., Dallas—Southern Ice & Utilities Co. increased capital from \$850,000 to \$1,000,000.

Tex., Raymondville—For full details see Electric Light and Power Plants.

### Iron and Steel Plants.

W. Va., Wheeling—B. & M. Metal Rolling Mill, W. J. Broddock, Prest., 36th and McCulloch Sts.; has brick plant; installed 12-in. rod mill, costing \$50,000; all purchased; daily capacity 25 tons bronze rods.

### Irrigation.

Okla., Muskogee—For full details see Land Developments.

### Land Development.

Ala., Birmingham—W. H. Stockham of Stockham Pipe & Fittings Works, purchased 200 acres of land and will develop for residential section.

Ala., Selma—For full details see Sewer Construction.

Ark., Pine Bluff—W. J. Parker, C. B. Craig, and others interested in development of Memorial Park; contemplate construction of golf course, tennis, dance pavilion, etc.

Fla., Bartow—Warner-Walker Fruit Co., capital \$25,000, incptd. with C. H. Walker, Prest.; C. S. Warner, V. P.; G. Edwin Walker, Secy.

Fla., Chipley—Round Lake Satsuma Co., capital \$100,000, incptd. with A. Sessoms, Prest.; W. C. Alford, V. P.; John B. Glen, Jr., Secy.

Fla., Jacksonville—Haley-Milan Co., capital \$25,000, incptd. with D. G. Haley, Prest.; John W. Holland, V. P.; A. Y. Milan, Secy. and Treas.

Fla., Jacksonville—Brevard County Nurseries Co., capital \$100,000, incptd. with Ammander W. Barrs, Prest.; James J. Craig, V. P.; David M. Craig, Secy.

Fla., Kissimmee—Central Produce Co., capital \$50,000, incptd. with G. V. Nave, Prest.; Frank W. Palmer, V. P.; F. A. Nave, Secy. and Treas.

Fla., Sebring—Big Redwater Groves Co., lately noted incptd. with \$50,000 capital, T. A. Jones, Prest., 1685 Elston Ave., Chicago; will develop 80 acres of land at Sebring for orange and grape fruits grove; will expend about \$50,000. Address Mch. Wanted Gas Engine; Pump Jack; Water Tank; Pipe; Tractor and Implements; Fence Wire.)

Fla., Winter Haven—Lake McLeod Nurseries Co., capital \$30,000, incptd. with S. D. Creel, Prest.; Harry Marx, V. P.; J. D. Coburn, Secy.

Ga., Atlanta—S. C. Doby, of Capitol Stone Co. interested in development of 21 acres for subdivision.

Ga., Macon—Solomon Realty Co., capital \$50,000, incptd. by W. G. Solomon, Linton M. Solomon, Maitland Solomon.

Ky., Covington—Twin Oaks Golf Club, capital \$100,000, incptd. by E. Nelson Hign, Thomas R. Morgan, Hugh P. Colville.

Ky., Stearns—Dixie Land & Improvement Co., incptd. by A. E. Wheeldon, R. W. Henderson, Mark Gibbs.

La., New Orleans—Jacob L. Well Realty & Investment Co., capital \$44,000, incptd. with Jacob L. Well, Prest.; Samuel L. Well, V. P.; Emanuel L. Well, Secy.

La., New Orleans—C. Cotesworth Baneroff will develop 330 acres on Lake Pontchartrain for subdivision; will expend about \$500,000 in improvements; construct asphalt roadways; parks, install water; electric lights; gas; sewers, etc.

Md., Baltimore—Northwest Real Estate Co., Geo. R. Morris, Prest., will develop 80 acres on Edmondson Ave. and Franklin Turnpike road for suburban homesite; will install sewer and build roads; construction to begin about Jan. 1.

N. C., Asheville—L. B. Jackson has acquired 25 acres and will develop Linwood Park as sub-division; will install water and sewer mains, electric lights; construct streets, etc.; will also erect 12-story building; about \$25,000 to be invested.

N. C., Pates—Pate Supply Co., capital \$50,000, incptd. by C. T. Pate, Purvis, N. C.; P. H. Livermore and Hugh Monroe, both of Pates.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Advertisement of business establishments and all other notices for publication in this department will be accepted on the basis of cash payment in advance.

N. C., Raleigh—The Homesite Co., \$100,000 capital, inctpd. by D. F. Fort, Jr., J. M. Norwood, R. Roy Carter; will develop 50 acres for homesites; will expend about \$75,000; will let contract for water and sewer system in Jan.; Prof. Harry Tucker, State College Station, Raleigh, engineer in charge.

Okl., Muskogee—The Yahola Sand & Gravel Co., W. S. Dills, Pres., has acquired 200 acre farm of fertile river bottom soil along edge of Grand River near Fort Gibson and will develop in alfalfa, corn and other crops suitable for stock feed, in connection with development of hog farm to have a capacity of 1000 hogs; will construct farm buildings; feeding pens, barns, etc.; will install extensive irrigation and drainage system; and electric lighting system; a heating system will be employed with motors for grinding the feed and for pumping water; plans also call for sub-irrigation system, having pumps with capacity for irrigating 200 acres over night; about \$250,000 will be expended.

Tenn., Memphis—W. C. Chandler will develop five acres for sub-division.

Tex., Corpus Christi—George Emmert and others interested in development of about 1800 acres near Tule Lake for hunting preserve; will probably construct dam across lake.

Tex., Highland Park—For full details see Water Works.

Tex., Wichita Falls—M. A. Cooper has acquired 160 acres in irrigated land district and will develop for orchard and nursery.

Va., Norfolk—United Owners Realty Corp., G. Serpell, Pres., increased capital to \$600,000.

Va., Richmond—Chesterfield Realty Co., capital \$85,000, inctpd. with J. Scott Parish, Pres.; John A. Lile, Secy.

Va., Roanoke—Virginia-Mississippi Satsuma Groves Corp., capital \$100,000, inctpd. with S. B. Rhodes, Pres.; J. Judson Shelton, Secy.

Va., Roanoke—Boswell Realty Co., J. W. Boswell, Pres., will increase capital to \$50,000.

Va., Salem—Ridgewood, Inc., capital \$560,000, inctpd. with I. P. Paul, Jr., Pres.; John R. Keister, Secy.

W. Va., Charleston—Log Cabin Land Co., capital \$5000, inctpd. by Braxton Miller, O. B. Bobbitt, R. A. McKee.

W. Va., Culloden—For full details see Miscellaneous Factories.

W. Va., Huntington—City. Mayor Chapman, considering enlarging Spring Hill cemetery.

### Lumber Manufacturing.

Ala., Montgomery—Vesuvius Lumber Co., D. L. Whitestone, Pres. increased capital to \$100,000.

Ark., Hot Springs—Mill-Creek Lumber Co., Dr. R. A. Simpson, Prop., Box 233, will rebuild plant, erect 32x70-ft. mill construction building; install Hall & Brown No. 114 resaw, rip saw, and moulder; manufacture yellow pine lumber.

Ga., Roberta—W. C. Starnes Lumber Co., W. C. Starnes, Mgr., will erect ordinary construction building; install \$15,000 mch.; daily capacity 40,000 roofers.

Ga., Thomasville—Driver Lumber Co., L. F. Driver, acquired 2300 additional acres timber land; will develop.

La., Tioga—Lee Lumber Co., will probably move plant to the Alexandria side of river, having acquired 40,000,000 additional feet of stumpage.

Miss., Starkville—H. C. Mickle Lumber Co.,

Cincinnati, Ohio, contemplates establishing plant.

N. C., New Bern—Rowland Lumber Co., Norfolk, Va., is building by day labor a mill construction building (replacing structures destroyed by fire) will install sawmill mch. and Corliss engine, etc.; daily output rough and dressed lumber and lath; E. L. Sutton, Supt. (See Machinery Wanted—Saw Mill Machinery; Engines.)

Tenn., Knoxville—Cockrum Lumber Co., will improve plant; increase capital to \$125,000.

### Metal-Working Plants.

Ga., Atlanta—Southern Spring Bed Co., Robert W. Schwab, Pres., will enlarge plant, increase floor space by 55,000 sq. ft.

Tex., Wichita Falls—Crude Oil Carburetor Co., organized with S. Walker, Pres.; F. D. Woodruff, Secy.-Treas.; will not erect plant at present; will probably contract for the mfr. of the carburetor, which is limited strictly to oil field gas engine use.

### Mining.

Fla., Miami—Atlas Rock Co., capital \$50,000, inctpd. with Charles H. Bartlett, Pres.; Otto N. Lundblom, Secy.

Ky., Bowling Green—Asphalt—Rock Asphalt Co., of America, organized with W. E. Massey, Pres., Louisville, Ky.; F. R. Brents, Secy., Woodberry, Tenn.; will develop asphalt deposits in western Kentucky.

Ky., Marion—Big Four Fluorspar & Ore Co., Farmers Bank Bldg., Pittsburgh, Pa., will develop 3 mi. of LaRue vein system, install mining and milling mch.; \$100,000; initial output 50 to 100 tons daily; A. H. Reed, Mgr., Marion, Ky. (See Machinery Wanted—Mining and Milling Machinery; Engines.)

La., Lafayette—Salt—Star Salt Corp., being organized with John J. Kean, in charge; plans call for drilling deep salt well, also salt plant of 200 ton capacity.

Mo., Joplin—Zinc—B. W. M. Mining Co., capital \$10,000, inctpd. by R. L. McGee, E. F. Beine and C. R. Warden.

N. C., Leaksville—Leaksville Granite Co., (lately noted inctpd., capital \$10,000) organized with E. B. King, Pres., S. W. Rainey, Treas.; will develop granite quarries; 150 ton capacity per 10 hrs.; have purchased equipment excepting crusher and track cars. (See Machinery Wanted—Crusher; Cars.)

### Miscellaneous Construction.

Ark., Ft. Smith—Coaling Plant—For full details see Railway Shops, Terminals, Round-houses, etc.

D. C., Washington—Wharf Head House—For full details see Mch. Wanted—Wharf Head House.

Fla., Miami—Incinerator—City let contract to Nye Odorless Crematory Co., Macon, Ga., to install incinerator; will erect concrete building at N. W. 20th St., costing \$30,000.

Fla., Miami—Terminals, etc.—Sun Oil Co., H. O. Shaw, Agt., contemplates establishing terminal along bay near 2nd St., is negotiating for site having 200 ft. water front, project includes erection of several tanks for oil storage, storage warehouse, garage and wharf.

Fla., West Palm Beach—Inlet, etc.—Lake Worth Inlet Dist. of Palm Beach County, I. C. H. Ellis, Secy. will issue \$275,000 bonds to secure 18 ft. channel between Lake Worth and the Atlantic Ocean and purchase site for erection of terminal facilities.

Miss., Meridian—Swimming Pool—Meridian Shrine, Hamasa Temple plans constructing swimming pool in Masonic Home.

Mo., Carthage—Swimming Pool—Carthage Sportsmen's Protective League, interested in construction of swimming pool in Carter's park.

Tex., Corpus Christi—Port Development—City, will complete deep water harbor project and vote Jan. 3 on \$2,500,000. (lately noted.)

### Miscellaneous Enterprises.

Ala., Birmingham—Whitman Taxicab Co., increased capital to \$40,000.

Ala., Florence—Greenhouses—Ginn Floral Co., L. T. Ginn, Prop., Moultrie, Ga., will establish branch; later to build and equip greenhouses.

Ala., Tuscaloosa—Abattoir—George Morgan let contract to J. A. Taylor at \$10,000 to erect 62x30-ft. concrete building for abattoir, concrete walls and flooring; later plans to establish complete packing house.

Fla., Daytona—Decker Hotel Co., capital \$60,000, inctpd. with Boyd Decker, Pres.; Kenneth C. Decker, Secy.

Fla., Daytona Beach—Daytona Beach Amusement Co., (lately noted inctpd., capital \$300,000) organized with Harry D. Fleck, Pres.; will erect fireproof and ordinary construction buildings, for amusement park, estimated cost, \$150,000; bids open Dec. 21 to 30; install power and pump engines, etc., bids until Dec. 30. (See Mch. Wanted—Lumber; Electrical Supplies; Engines (Power and Pump); Tanks (Septic); Building Materials, etc.; Steel (Structural and Sheet); Hardware, etc.)

Fla., Jacksonville—Associated Publishers of Florida, capital \$250,000, inctpd. with Geo. B. Hills, Pres.; Will M. Traer, Secy.

Fla., Fort Lauderdale—Broward Construction Co., capital \$10,000, inctpd. with Donald C. Gorgan, Pres.; George E. Crosby, Secy.

Fla., Eustis—Motion Pictures—Dr. Edgar J. Banks, member of staff of Palmer Co., Los Angeles, Cal., reported as forming \$250,000 company, will erect studio for making educational films.

Ga., Augusta—Laundry—University Hospital, University Place, Thomas Barrett, Sr., Pres., Board of Trustees, let contract to American Laundry Machine Co., Cincinnati, Ohio, at \$14,000 to replacing laundry mch. including, washer, flat work ironer, drying tumbler and extractor.

Ky., Richmond—Hardware—March & Powell, capital \$15,000, inctpd. by J. F. March, Edwin W. and Mary M. Powell.

La., Algiers—Feery Line—Algiers Public Service Company, Inc., capital \$250,000, chartered with August Schabel, Pres.; Adolph Spitzfaden, Jr., Secy.-Treas.; will establish ferry line connecting New Orleans with Algiers.

La., New Orleans—Dairy—Mrs. Henry Schroeder, acquired 1000 acres, known as Live Oak plantation, will establish dairy farm.

Miss., Columbus—Harris Hardware Co., capital \$15,000, inctpd. by T. M. Harris, Mrs. Mary Harris and others.

Miss., Lexington—Ramsey Sign Service Co., 136 W. Main St. (lately noted inctpd., capital \$50,000) organized with Hagan Yancy, Pres.; Frank Snider, Secy.-Treas.; I. H. Ramsey, Mgr.; rent highway bulletins, etc.; use present plant, will probably build new plant within year.

Miss., Greenwood—Red Line Bus Co., capital \$10,000, inctpd. by P. W. Parson, S. G. Wilson and others.

Miss., Gulfport—Bonded Taxi Co., capital \$25,000, inctpd. by A. L. Austin, Emil Price Hubbard and others.

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Miss., Poplarville—Pearl River County Hospital, capital \$12,000, inceptd. by J. W. Moody, and others.

Mo., Kansas City—Nichols Wire Sheet & Hardware Co., capital \$750,000, inceptd. by H. Sonken, W. L. Eastlake and E. E. Stigall.

Mo., Kansas City—Marquette Building Co., capital \$300,000, inceptd. by Albert Florian, Grover Joyce and M. E. Reiser.

Mo., Kansas City—Gateway Publishing Co., capital \$100,000, inceptd. by J. H. Anderson, A. F. Nelson and J. B. Organ.

Mo., Mexico — Greenhouses — Wonneman Floral Co., has under construction two greenhouses, containing about 100,000 sq. ft. glass; will install 3 boilers.

Mo., St. Louis—Alexander Radio Electric Co., capital \$10,000, inceptd. by J. G. Alexander, V. D. Gallo and others.

N. C., Charlotte—Spencer Hotel Co., capital \$15,000, inceptd. by J. A. Thomas, Charlotte; W. C. Carper, Ware Shoals, S. C. and others.

S. C., Greer — Sullivan-Eskew Hardware Co., capital \$50,000, inceptd. by J. B. Mendenhall, Greer; W. W. Sullivan, Anderson, S. C. and T. E. Eskew, Greenville, S. C.

Tex., Abilene—Abilene Printing Co., let contract to J. R. Horn to remodel building occupied by the Commercial dept.; approx. cost \$10,000.

Tex., Beaumont—Beaumont Wholesale Paper Co., capital \$20,000, inceptd. by J. J. Salinsky, S. R. and L. D. Galesky.

Tex., Brady—Brady Hotel Co., capital \$50,000, inceptd. by W. D. Crothers, S. W. Hughes and G. C. Kirk.

Tex., Dallas—Gardner Park Amusement Co. increased capital to \$185,000.

Tex., Houston—Morse Building Co., capital \$60,000, inceptd. by H. D. Morse, Thomas Barry and R. J. Hughes.

Tex., Vinton—Dairy—Price Dairy Co., Robert E. Price, El Paso, Tex., has purchased farm, will remodel existing buildings and build model milk house, etc.; move herd of 175 cows to new farm.

Tex., San Antonio—Standard Engineering & Importing Co., capital \$10,000, inceptd. by E. C. Hammond, E. B. and L. A. Winship.

Va., Crozet — Contracting — Starkweather Contracting Corp., capital \$25,000, chartered with C. E. Starkweather, Prest.; Crozet; John S. Battle, Secy., Charlottesville, Va.

Va., Williamsburg — Williamsburg Hotel Corp., capital \$150,000, chartered with Frank G. Linekin, Prest.; O. L. Shewmake, Secy.

W. Va., Logan—Miller Hardware & Supply Co., one of the associated houses of Miller Supply Co., Huntington, W. Va.; has under construction 7-story building, having approx. 70,000 sq. ft. floor space. (Lately noted inceptd., capital \$500,000.)

W. Va., Wheeling—Brown & White Cab Co., of West Virginia, capital \$25,000, inceptd. by J. G. Grime, T. F. Clayton and G. W. Frazier.

### Miscellaneous Factories.

Ala., Anniston — Calhoun Co-operative Creamery, J. G. Wills, Treas., 10th and Wilmer Sts., has plant and will install creamery mch., to cost about \$10,000. (See Mch. Wanted — Creamery Machinery and Equipment; Boilers; Trucks).

Ala., Gadsden—Crossfield Ice Cream & Creamery, 1216 Forest Ave., C. K. Cranfield, Mgr., will construct brick building, construction by owners; opens bids Dec. 20 for 10-ton ice plant. (See Mch. Wanted—Ice Plant.)

Fla., Jacksonville—Matay Bottling Works,

capital \$25,000, inceptd. with Joe H. James, Jr., Prest.; J. E. Reed, V. P.; N. K. McGill, Secy.

Fla., Pensacola—Phymos Chemical Laboratories, Inc., capital \$45,000, inceptd. by V. J. MacIntire, John J. MacIntire, W. A. Pourties.

Ga., Atlanta—The Wholesale Granite Co., 214 Confederate Ave. will erect building; mill construction; 50x150 ft.; will install improved granite mch.

Ky., Paducah—Kolb Bros. Drug Co. increased capital to \$200,000.

La., Bastrop—Bastrop Pulp & Paper Co. will install additional mch. in plant; among equipment will be 162-in. Beloit high speed machine with capacity of 50 tons finished kraft paper daily; is erecting power house, and will install two 800 H. P. engines.

La., Monroe—Southern Carbon Co. reported to be considering the expenditure of about \$2,000,000 in constructing new units.

La., New Orleans—Fulton Bag & Cotton Mills, S. Front and Galienne Sts., has plans by Sam Stone, Jr. and Grover C. Stone, Asst. Archts., 714 Union St. for construction of additional building and for altering and improving present plant and watchmans building; plans call for erection of 1 story, 65x95 ft., steel frame, dryer building of masonry walls; erection of 1 story, masonry 50x85 ft. bag shed; installation of lavatories, plumbing, electric wiring, sprinkler system, constructing composition roof on plant; granite paving, etc.; cost about \$46,000; bids opened Dec. 18.

Md., Baltimore—Bakery—Wm. E. Grimm is having plans prepared by F. E. Beall, 306 St. Paul St., for construction of bakery, lunchroom and apartment building at 1107-09 W. 36th St.; 2 story and basement; brick; cost \$14,000.

Miss., Lyman—Hogan Turpentine Co., capital \$25,000, inceptd. by E. Hogan, F. R. White and others.

Miss., Moss Point—Southern Paper Co., Eu. H. Mayo, Mgr., has plans for enlargement of plant; will increase mfg. capacity of plant to 100 tons daily. (Previously noted.)

Mo., Springfield—Colonial Drug Co., capital \$10,000, inceptd. by C. S. Leslie, N. H. Antrim, W. H. Vancey.

Mo., St. Louis—Berkowitz Envelope Co., of Kansas City, leased building at Twenty-third and Locust St. for envelope plant.

N. C., Wilmington—American Bakeries, E. S. Collins, Mgr., will construct addition to plant; 75x76 ft.; brick; slate roof; cost \$10,000; Rhodes & Underwood, Contrs.

N. C., Winston-Salem—Cavalier Chemical Co., capital \$50,000, inceptd. by E. M. Spivey, Wesley Taylor and others.

Okla., Henryetta—Brooms—S. E. Roberts, of Windsor, Mo., reported interested in locating broom factory here.

S. C., Saluda—Herlot Mfg. Co., W. B. Herlot, has building, will install 20 machines for mfg. gloves, shirts and overalls.

Tenn., Knoxville—Knoxville Battery Service Co., 718 N. Broadway, will improve plant.

Tenn., Martin—American Cigar Co., 111 Fifth Ave., New York, reported to establish branch cigar plant.

Tenn., Memphis—Tollet Goods—Oriental Laboratories, Inc., O. C. Gibbs, Mgr., 236 S. Main St., has building, will install equipment, including steam jacket, cold cream mixer and two filling machines; increased capital to \$25,000. (See Machinery Wanted—Laboratory Equipment.)

Tenn., Nashville—Pen-O-Pencil Co., capital \$100,000, inceptd. with Edward Sulzbacher,

Prest.; Bernard Fensterwald, V.-P.; Ernest Eskind, Secy.-Treas.

Tex., Corpus Christi—Brooms—E. L. Dunbar will construct broom factory.

Tex., Houston—Vinegar, Extracts, etc.—California Products Co., capital \$25,000, inceptd. by A. D. Baker, G. A. MacFarland, O. E. Gilleland.

Tex., Houston—Houston Ice Cream Co., 1701 Washington Ave. will construct addition to plant; 3 story; reinforced concrete and hollow tile; cost \$15,000.

Tex., Orange—Orange Medicine Co., capital \$20,000, inceptd. by E. R. Thompson, Hunter Huddle, H. H. Yoder.

Tex., Palestine—Ligol Chemical Co., of Houston, has acquired lignite holdings of Anderson County Coal Co. and will install a dehydrating plant to mfr. by-products from coal.

Va., Lynchburg—Tanning and Dyeing Extracts—John H. Heald & Co., Inc., will increase capital from \$450,000 to \$1,500,000.

W. Va., Culloden—Glass—Daniel Taylor of New York, (present address Hotel Frederick, Huntington, W. Va.) reported interested in organizing Midway City Glass Corporation and erecting glass plant, construction to begin in about 60 days; will also erect employees dwellings, etc.; will develop town to be called Midway City; will install gas and other city conveniences.

W. Va., Fairmont—Fairmont Dairy Products Co., capital \$25,000, inceptd. by M. M. Frost, E. C. Frame, C. F. Rollins.

W. Va., Morgantown—Bonner Ice Cream Co., capital \$75,000, inceptd. by S. A. Bonner, Robt. B. Bonner, Margaret Markley.

W. Va., Wheeling—Bloch Bros. Tobacco Co. will increase capital to \$100,000.

### Motor Cars, Garages, Tires, Etc.

Ark., Cotter—G. B. Ortmann and Sons will erect 50x75-ft. concrete garage building on Main St.

Ky., Jenkins—Nash Auto Sales Co., inceptd. by T. C. Gutherie, C. G. and Carolina Evans.

Ky., Louisville — Garage, etc. — Buffehr Brothers Co., inceptd. by Joseph T. Clarence M. and Anna C. Buffehr.

Ky., Owensboro—Chambers Motor Co. will erect 3 story sales and service building, estimated cost \$25,000; leased site corner 3rd and Daviess Sts.

La., Alexandria—Filling Stations—Standard Oil Co., R. A. Riddle, Supt. of construction let contract to Dehr Construction Co., Alexandria to construct drive-in oil station; approx. cost \$10,000.

Md., Baltimore—Garage—Baltimore Transfer Co., 324 N. Front St. will erect 3 story brick garage, approx. cost \$10,000; construction by owner.

Md., Baltimore—Service Station—H. S. Block, of Chandler Agency, 1001 Cathedral St. acquired properties 1007 and 1009 Cathedral St., will remodel for automobile service station.

Md., Baltimore—Automobile Accessories—St. Charles Service Station, Inc. (lately noted inceptd.) organized with Chas. L. Staples, Prest.-Mgr.; H. M. Ward, Secy.-Treas.

Md., Baltimore—Garage—United Railways & Electric Co. let contract to West Construction Co., American Bldg. to erect 1 story garage on Pennsylvania and Cumberland St.; approx. cost \$50,000; William W. Emmart, Archt., Union Trust Bldg. (Lately noted)

Mo., Bolivar—Penn Motor Co., capital \$15,000, inceptd. by F. J. Curran, Roy Penn and Homer McElhanev.

Mo., Springfield—Filling Station—Stratton & Ruhl will erect filling station at 227 W.

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Central St.; equip with underground tanks.  
Mo., St. Louis—Frank Bishop, Prest., Brisco-Liberty Motors Corp. leased 1 story building at 1317 Chestnut St.; will establish used car dept.

N. C., Asheville—Bryant Motor Sales Co., G. W. Bryant, in charge, let contract to T. C. Smith Co., to erect 80x110-ft. building at corner of Patton Ave. and Cox St.; approx. cost \$100,000.

N. C., Concord—Motor & Tire Service Co., A. H. Jarrett, Mgr. increased capital to \$200,000. (Supersedes recent item.)

S. C., Charleston—Garage, etc.—For full details see Mch. Wanted—Garage, etc.

S. C., Hartsville—Modern Filling Station, capital \$10,000, inceptd. with R. B. McKorrell, Prest.; R. O. Milling, Secy.-Treas.

Tenn., Chattanooga—Chattanooga Drive-It-Yourself Co., capital \$14,000, inceptd. by Harris Saunders, F. T. Montgomery and Roy E. Johnson.

Tenn., Memphis—Tristates Motor Sales Co., let contract to Boon Construction Co. to increased capital from \$98,000 to \$198,000.

Tenn., Nashville—Filling Station—Standard Oil Co., R. A. Riddle, Supt. of Construction, build drive-in. filling station; approx. cost \$10,000.

Tex., Orange—Pennant Service Station, capital \$20,000, inceptd. by W. C. A. Beneke, and others.

Tex., San Antonio—Lindsey-Krough Auto Co., capital \$25,000, inceptd. by John L. Lindsey, A. F. Barnes and L. H. Krough.

Va., Portsmouth—Wilcox-Brooke Motor Co., Inc. (lately noted inceptd., capital \$25,000) chartered with J. M. Brooke, Prest.; have opened bids for construction of 2 story 72x60-ft. fireproof building; approx. cost \$20,000; will install \$2000 shop equipment.

W. Va., Grafton—United States Auto Twin Hooks & Chain Co., inceptd. by James A. Sincell, William T. Hopke and Ernest R. Love.

W. Va., Huntington—Osborne Motor Co., capital \$50,000, inceptd. by D. R. Porter, E. H. McCrea and G. M. McLaughlin.

W. Va., Martinsburg—Clarence Messick let contract to D. C. James to erect 2 story, 40x80 ft. brick garage building on N. Queen St.

W. Va., Martinsburg—L. J. Freeze and others will erect public repair shop on Winchester Ave.

### Railway Shops, Terminals, Roundhouses, Etc.

Ark., Ft. Smith—St. Louis-San Francisco Ry. Co., P. G. Johan, Chief Engr., St. Louis, Mo., let contract to Roberts & Schaeffer Co., Engrs. and Contrs., Wrigley Bldg., Chicago, Ill., to construct a 300-ton capacity, reinforced concrete, simplex automatic, electric roller skip type locomotive coaling plant.

Md., Baltimore—Pattern Shops, etc.—Baltimore & Ohio R. R., H. A. Lane, Chief Engr., will rebuild burned buildings at Mount Clare shops; loss \$100,000; Thomas R. Stewart, Supt. of Shops.

### Railways.

Ala., Sipsey—St. Louis-San Francisco Railway Co. is reported contemplating construction of an extension from Sipsey to Arkadelphia, Ala., about 15 mi. F. G. Jonah, St. Louis, Mo., is Chief Engr.

Mo., Weston—Chicago, Burlington & Quincy Railroad, it is reported, will build double track 2 mi. long here to replace track washed out. Estimated cost \$185,000. A. W. Newton, Chicago, Ill., is Chief Engr.

W. Va., Huntington—Conleys Creek Rail-

road Co., of Huntington, is incorporated with \$50,000 capital, the incorporators being U. B. Buskirk, of Cincinnati, Ohio, R. C. Buskirk, W. M. Cole, G. R. Buskirk and S. B. Robertson, all of Huntington.

### Road and Street Construction.

Alabama—State Highway Dept., Montgomery, Ala., received low bids to gravel 3 sections roads, 18.67 miles long, as follows: Bullock County, F. A. Proj. 68, low bidder, D. P. Cook, Selma, at \$223,878; Bullock County, F. A. Proj. 1, Kenan & Kyser, Selma, at \$91,915.90. Lee County, 13,897 mi. Opelika-Dadeville road, R. D. Chambers, West Point, Ga., at \$172,049.12; Newell Construction Co., Birmingham, Ala., submitted low bid of \$34,789.66 for bridges on this highway.

Ala., Florence—City, E. B. Garner, Commr. of Streets, plans extending Lelia St. to new College Park subdivision.

Ala., Tuscaloosa—For proposal details see Mch. Wanted—Paving.

Ala., Tuscaloosa—For proposal details see Mch. Wanted—Paving.

Arkansas—North Arkansas Highway Improvement Dist. No. 2, Little Rock, Ark., will build 4 sections road and bridges. For proposal details see Mch. Wanted—Road and Bridge Construction.

Ark., Fort Smith—Fagan Bourland, Mayor, plans paving Garrison Ave.; brick or asphalt and concrete base paving; concrete gutter; W. L. Winters, Dist. Engr.

Fla., Bradentown—Manatee County Commissioners, plans improving State Highway No. 107, from point 2 mi. east of Lorraine, to new highway being built by De Soto County extending 20 mi. into Myakka Dist.; will also build roads to Sandy, Edgeville, and point near Duette, branching out from Myakka City; McElroy Engineering Co., Engr., Tampa, Fla.; will vote Jan. 9 on \$150,000 bonds.

Fla., Bushnell—For proposal details see Mch. Wanted—Road Construction.

Fla., Chipley—City let contract to J. P. Morgan Paving Co., Birmingham, Ala., at \$1.55 sq. yd., for 35,000 sq. yds. concrete street paving and sidewalks. Address The Mayor.

Fla., Dade City—Pasco County Commrs. let contract to build 3 sections road from Dade City to West Coast section; to J. G. Yeats Co., Tampa, to lay foundation and grade, entire road, and surface two-thirds on eastern portion; to Finley Method Co., Jacksonville, to surface 1/3 on western portion; \$500,000; sheet asphalt, and Finley method. (Lately noted.)

Fla., DeLand—For full details see Water Works.

Fla., Fort Pierce—State Road Dept., Tallahassee, Fla., plans hard surfacing and widening to 16-ft., 17-1/3 mi. road in St. Lucie County, from Ten Mile to Okeechobee County line; \$110,000 available.

Fla., Jacksonville — City, St. Elmo W. Acosta; Park Commr., let contract to Jacksonville Concrete Products Co., Jacksonville, Fla., at \$2100 for 1363 sq. yds. tile sidewalks in City Parks; W. E. Shedden, City Engr. (Lately noted.)

Fla., Pensacola—For proposal details see Mch. Wanted—Road Construction.

Fla., Tavares—Lake County Commrs. plan building 3 following roads: From Silver Lakes estates to Dead River, another to Whitney, and from Leesburg to Helena Run; have voted bonds.

Fla., Tavares—Lake County Commrs. will receive bids until Dec. 21 to build 4 roads as follows: Between Altoona and Crow Bluff, Eustis and Cassia, Messina and Sor-

rento, and along shores of East Crooked Lake.

Fla., Tavares—Lake County, Road Dist. No. 1, plans 30 mi. brick or asphalt road from Marion County line to Grand Island; will build bridges; voted \$750,000 bonds; Geo. Heller, County Engr. (Lately noted.)

Fla., West Palm Beach—Palm Beach County Commrs., Hector Harris, Chrmn., let contracts for oiling 3 sections of roads as follows: 14 mi. Ocean Blvd. from Crocker's Place to Delray, 125,050 sq. yds., to A. O. Greynolds, West Palm Beach, at 9 1/2 cts. sq. yd.; 7.5 mi. Ocean Blvd., between Delray and Boca Ratone, 67,000 sq. yds., to Maule Paving Co., Ojus, Fla., at 10 cts. sq. yds.; 11 mi. new road near Steuart, to Maule Paving Co., Ojus, at 10 cts. sq. yd. (Lately noted.)

La., Tallulah—For proposal details see Mch. Wanted—Road Construction.

La., New Orleans—For full details see Land Developments.

La., New Roads—For proposal details see Mch. Wanted—Road Construction.

Md., Baltimore—For full details see Land Developments.

Missouri—State Highway Dept., Jefferson City, Mo., will build 3 roads. For proposal details see Mch. Wanted—Road Construction.

Missouri—State Highway Dept., Jefferson City, Mo., plans grading and constructing drainage structures on 14 following roads:

Callaway County, .50 mi. from Fulton eastward, S. A. Proj. 20,227; Christian County, 9.5 mi. from Springfield to Hollister, Ozark Special Road Dist.; clay bound macadam surface, F. A. Proj. No. 36; De Kalb County, 1.4 mi. from Maysville westward, S. A. Proj. No. 20,203; Dunklin County, 18 mi. from Holcomb northwestward, S. A. Proj. No. 221; Greene County, 2.50 mi. from Springfield southward, clay bound macadam surface, F. A. Proj. No. 162; Johnson County, 1.748 mi. from Warrensburg southward, S. A. Proj. No. 20,200; Lincoln County, 1.046 mi. from Troy eastward, S. A. Proj. No. 2069 B; Marion County, 2.433 mi. from West Ely westward, S. A. Proj. No. 20,188; Oregon County, 2.534 mi. from Koshkonong northwestward, S. A. Proj. No. 20,226; Pemiscot County, 1.809 mi. from Hayti southeastward toward Caruthersville, S. A. Proj. No. 20,224; Ralls County, 5.498 mi. from New London, S. A. Proj. No. 20,168; Phelps County, 7.195 mi. from Newburg southwestward, S. A. Proj. No. 20,216; Randolph County, 1.363 mi. from Clark northwestward, S. A. Proj. No. 20,140; Warren County, 1.218 mi. from Warrenton southward, S. A. Proj. No. 20,221.

Will receive bids until Dec. 15 for following: Boone County, 6.43 mi. from Ashland to Callaway County line, State Aid Proj. No. 20,127; R. W. Hodson, Div. Engr., Jefferson City.

Missouri—St. Louis County Commrs. Court let contracts at \$184,962.21 to build 6 roads as follows: 1 1/2 mi. Lackland road between Dorsett and Schutz, \$17,662.66; Denny road, in Kirkwood, \$70,203; 3 mi. Bellefontaine road from city limits to Larrimore road, \$27,904; Old Hall's Ferry road, \$21,939.75; New Hall's Ferry road, \$22,252.80; Florissant road in Ferguson, \$25,000.

Missouri—State Highway Dept., Jefferson City, Mo., let contracts for following 3 roads: 5 mi. Westplains and Gainesville, Howell County, to Lane, Lane and Nichols, Westplains; 5 mi. between Bakersfield and Douglas County line, Ozark County, to Wheeler & Griffin Co., Elijah, Mo.; 6 mi. between Squires', Ozark County, and Ozark County line, to Summerfield Jones Co., Westplains.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Miss. Meridian—Lauderdale County Comms. Beat One, plans completing 4 mi. of Meridian-Vimville and Butler, Ala., road; \$300,000 Fed. Aid asked.

Mo., Bethany—State Highway Dept., Jefferson City, Mo., let contract to Rand Construction Co., Bethany, at \$142,392.02 for 4 mi. concrete road west of Bethany, and for erection of bridge across Big Creek. (Lately noted.)

Mo., Bloomfield—For proposal details see Mch. Wanted—Road Construction.

Mo., Cassville—State Highway Dept., Jefferson City, Mo., plans grading and constructing drainage structures on 4.517 mi. road from Cassville northward, F. A. Proj. No. 151.

Mo., Excelsior Springs—For proposal details see Mch. Wanted—Paving.

Mo., Fulton — For proposal details see Mch. Wanted—Road Construction.

Mo., Galeua—State Highway Dept., Jefferson City, Mo. will receive bids soon to improve Crane-Galeua highway; \$67,000.

Mo., Harrisonville—For proposal details see Mch. Wanted—Road Construction.

Mo., Jackson—State Highway Dept., Jefferson City, Mo. let contract to R. R. Bedwell, and Jack Carroll, both Cape Girardeau, and Fred Hartle, Millersville, Mo., at \$31,913.81, to build 2.58 mi. road on Kingshighway from Jackson to Perry County line; 3 bridges, 60-ft., 50-ft., and 30-ft. spans of concrete and steel and several concrete culverts. (Lately noted.)

Mo., Liberty—State Highway Dept., Jefferson City, Mo., let contract to Capital Construction Co., 1207 Cherry St., Des Moines, Iowa, at \$332,500, for 2 sections road from North Kansas City to Gashland; 8.588 mi. concrete pavement. (Lately noted.)

Mo., Maysville—For proposal details see Mch. Wanted—Road Construction.

Mo., Neosho—State Highway Dept., Jefferson City, Mo., received low bid from Independent Construction Co., Pittsburgh, Kan., to build concrete road from Tipton Ford to Neosho.

Mo., Perryville—State Highway Dept., Jefferson City, Mo., received bids to build road between Perryville and St. Marys; Chas. E. Kiefner, John Gelle and J. J. Endres, all of Perryville, low bidders at \$49,805.53.

Mo., Potosi—For proposal details see Mch. Wanted—Road Construction.

Mo., St. Charles—For proposal details see Mch. Wanted—Road Construction.

Mo., St. Louis—For proposal details see Mch. Wanted—Paving.

Mo., Springfield—For proposal details see Mch. Wanted—Road Construction.

North Carolina—State Highway Dept., Raleigh, N. C., will let contracts in Jan. for 2 sections of roads as follows; 10 mi. hard surfaced road from Fort Barnwell to Jasper \$30,000; 15 mi. sand clay road between Jacksonville and Jones County line, \$150,000.

N. C., Albemarle—For proposal details see Mch. Wanted—Sewer and Water Lines and Paving.

N. C., Asheville—For full details see Land Developments.

N. C., Beaufort—State Highway Dept., Raleigh, N. C., let contract to Duplin Construction Co., Warsaw, N. C., at \$40,273.36 for roadway, and to Batson-Cook Co., West Point, Ga., at \$24,956.30, for structures, on 13 mi. soil road between Beaufort and Craven County line; Carteret County Proj. No. 201. (Lately noted.)

N. C., Danbury—Stokes County Comms. plans building 3 mi. soil road in Peters

Creek Township, from Buck Island Bridge on Dan River to Jewel Place.

N. C., Greensboro—P. C. Painter, City Mgr., has tentative plans for widening and improving main streets, including Green, W. Lee, W. Sycamore.

N. C., Shelbyville—State Highway Dept., Nashville, Tenn., will let contract soon to rebuild road between Shelbyville and Murfreesboro.

Okla., Sallisaw—For full details see Bridges, Culverts, Viaducts.

S. C., Camden—State Highway Dept., Columbia, S. C., let contract to Thos. E. Hook, New Brookland, at \$10,958, for 3,363 mi. Camden-Sumter road, Kershaw County; sand clay. (Lately noted.)

S. C., Newberry—State Highway Dept., Columbia, S. C., let contract to Deaver & Robinson, Carlisle, S. C., at \$50,000 to build 12.6 mi. road from Newberry to Broad River, Newberry County. (Lately noted.)

S. C., Sumter—Sumter County Permanent Roads Comsn., let contracts for grading 2 mi. road from Moore's Ave., at Dalzell, to Mallard Lumber Co.; to finish Bishopville road, to C. D. Bigsbee, Durham, N. C.

S. C., Union—City let contract to Southern Paving Co., Spartanburg, S. C., for paving principal streets; voted \$150,000 bonds; Emslie Nicholson, Chrmn., Paving Comsn. (Lately noted.)

Tex., Beaumont—Jefferson County Comms. Court, let contract to Smith Bros., Crockett, Tex., to improve 2 roads as follows; 15.59 mi. pavement of concrete base and asphalt topping on Nome road, at \$663,008, and 7.35 mi. same type pavement on Voth road, at \$273,032.87.

Tex., Cameron—Milam County plans improving S. H. No. 43, Road Dist. No. 5; Federal aid granted; Jeff T. Kemp, County Judge; A. F. Mitchell, County Engr.

Tex., Center—Ch. Engr., Bureau of Public Roads, Washington, D. C., approved plans for 6 mi. 16-ft. gravel road, State Highway No. 35, from Timpson to Attoyac River, at Nacogdoches County line; cost \$84,200; D. R. Taylor, County Judge, Center; I. R. Titus, County Engr., Timpson.

Tex., Center—Shelby County plans 12.5 mi. S. H. No. 35 from Bobo to west line of Joaquin Road Dist. No. 5; \$160,000; D. R. Taylor, County Judge; T. H. Dillon, County Engr.

Tex., Clarksville—For proposal details see Mch. Wanted—Road Construction.

Tex., Coleman—Coleman County Comms. Court, L. G. Mathews, County Judge, will receive bids until Dec. 16 to grade, construct drainage structures and gravel surface 5 following: 6 mi. Camp-Cororado road; 8 mi. Coleman-Comanche road; 9 mi. Poverty Flat road; 12 mi. Trickham road; and 6 mi. Santa Anna-North road; W. E. Dickerson, County Engr.

Tex., Columbus—Colorado County plans improving about 11 mi. S. H. No. 3; J. C. Hoyo, County Judge; B. H. Faber, County Engr.

Tex., Corsicana — State Highway Dept., Austin, Tex., has approved plans for 7.7 mi. 15-ft. macadam road on S. H. No. 31, through Road Dist. No. 14, Navarro County; \$80,990; A. P. Mays, County Judge, McClendon & Purnell, County Engrs.

Tex., Crockett—State Highway Dept., Austin, approved plans for 6.9 mi. 16-ft. gravel road on S. H. No. 21, Houston County, extending from present F. A. Proj. \$124,080; Nat Patton, County Judge; G. M. Courtes, County Engr.

Tex., Daingerfield—Morris County plans

improving S. H. No. 35; State Highway Comsn., granted \$13,447 aid. Address J. W. Cason, County Judge, Daingerfield.

Tex., Eastland—Eastland County plans 7.65 mi. 16-ft. bituminous macadam road on S. H. No. 1; C. R. Starnes, County Judge; W. R. Eccles, County Engr.

Tex., Granbury—Hood County plans gravel surfacing 14 mi. S. H. No. 10; \$25,000; R. M. Mugg, County Judge; S. J. Cox, County Engr.

Tex., Highland Park—For full details see Water Works.

Tex., Houston—O. F. Holcombe, Mayor, received low bids for following street paving: Hathaway Ave., Gulf Bitulithic Co., at \$31,923.20; Walker Ave., Uvalde Co., at \$29,056. Will invite bids soon to pave Berthea St. and Graustark Ave.

Tex., Houston—For proposal details see Mch. Wanted—Paving and Sewer Construction.

Tex., Kerrville — Kerr County, Comms. Court, Lee Wallace, County Judge, let contracts to Dordon Alvis, Fredericksburg, Tex., at \$30,952.92, to grade, construct drainage structure and gravel surface 5 mi. road from Town Creek Bridge; and at \$6157 to build Town Creek bridge.

Tex., Junction—Kimble County Comms. Court, W. H. Baker, County Judge, let contract to W. T. Hutton & Son, at \$52,929.72, for 8 1/4 mi. Old Spanish Trail road from 6 mi. west of Junction to North Llano River. (Lately noted.)

Tex., Kaufman—Kaufman County, W. P. Williams, County Judge, let contracts to C. W. Burgess, 501 Dallas County State Bank, Dallas, to grade and construct drainage structures on 2 sections of roads as follows: 6.61 mi. S. H. No. 15, from Van Zandt County line west, at \$14,584.05; 9.37 mi. S. H. No. 15 from Terrell, Tex. west to Tally-Forney road at \$55,164.03.

Tex., Lagrange—State Highway Dept., Austin, Tex., approved plans for 8.03 mi. 16-ft. gravel road on S. H. No. 3-A, Fayette County; \$31,372; J. P. Ehlinger, County Judge; A. Schlafli, County Engr.

Tex., Levelland—Hockley County plans improving 7.24 mi. Roger Q. Mills Highway, (S. H. No. 7) from Lamb County line to Lubbock County line; \$14,500; Hasie & Preston, Engrs., Littlefield, Tex.

Tex., Lufkin—Ch. Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for 9.72 mi. S. H. No. 7, from Lufkin to Huntington, Angelina County; \$162,855; John F. Robinson, County Judge; G. R. Abney, County Engr.

Tex., Mason—U. S. Dist. Engr., Fort Worth has approved plans for 14.25 mi. S. H. No. 9, Mason County; \$85,693; J. T. Banks, County Judge; Joe Gresham, County Engr.

Tex., Mineral Wells — Lyeurgus Smith, Mayor, has let contract to J. E. Ward, Dallas, Tex., at \$40,000 to resurface 39,000 sq. yds. streets; W. M. McClendon, Engr. (Lately noted.)

Tex., Nacogdoches—City plans expending \$225,000 for street improvement. Address The Mayor.

Tex., Palo Pinto—Palo Pinto County, E. L. Pitts, County Judge, will let contract soon for 3.99 mi. 18-ft. asphalt macadam road on S. H. No. 1, between Mineral Wells and Parker County line; \$123,773.66; G. W. Courter, County Engr.

Tex., Plainview—City plans paving 17 blocks on W. 7th St. connecting business section with Wayland College. Address The Mayor.

Tex., Robstown—City let contract to W. L.

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Pearson & Co., Houston, to lay 8 blocks concrete pavement on Sixth and Main streets.

Tex., Silverton—Briscoe County will receive bids in about 30 days for 22.57 mi. S. H. No. 5A from Swisher County line east through Road Dist. No. 7. Plans improving 12 mi. S. H. No. 5-A, Road Dist. No. 6; State Highway Comsn., has allotted \$31,250, conditional on County voting bonds for improvement; L. B. Richards, County Judge; M. E. Worrell, County Engr.

Tex., Vernon—Wilbarger County, E. L. McHugh, County Judge, has let contract to Rex Boyd and R. C. Pearce, Oklaunion, Tex., to grade 5½-mi. road on Colorado-to-Gulf Highway.

Virginia—State Highway Comsn., H. G. Shirley, Chrmn., Richmond, Va., received low bids for 3 following projects: 205—9.9 mi. reinforced concrete road from Fredericksburg to Spotsylvania Courthouse, Spotsylvania Construction Co., Highland Springs, Va., at \$336,127.78; 169—14 mi. bituminous macadam road from Blue Ridge Church to Timber Creek, W. W. Boxley, Roanoke, Va., at \$215,643.02; 186—6 mi. 18-ft. concrete road from Sandy River west, Overstreet & Nance, Bedford, Va., at \$202,000. (Lately noted).

Virginia—For proposal details see Mchv. Wanted—Road Construction.

Va., Richmond—State Highway Comsn., H. G. Shirley, Chrmn., or Henrico County Commissioners, will receive bids until Jan. 2 for 6.6 mi. concrete or penetration macadam highway from city limits toward Seven Pines; \$100,000.

Va., Richmond—City, Will Cone, Engr., plans expending \$2000 to pave S. Perry St., and \$20,000 to pave Pleasant Ave.; both asphalt.

W. Va., Weston—For full details see Sewer Construction.

### Sewer Construction.

Ala., Selma—City will probably vote on \$200,000 bonds for sewerage, schools and cemetery. Address The Mayor. (Lately noted).

Fla., DeLand—For full details see Water Works.

Fla., Jacksonville—For proposal details see Mchv. Wanted—Storm Water and Sanitary Sewer Construction.

Fla., Jacksonville—For proposal details see Mchv. Wanted—Sewers (Storm Water & Sanitary.)

Fla., Jacksonville—City Comsn. approved recommendation of W. S. Shedd, City Engr. for connection of North Springfield or Hisee sewer system with old city sewers at cost of \$6934.

La., New Orleans—For full details see Land Developments.

Md., Baltimore—For full details see Land Developments.

Miss., Corinth—For proposal details see Mchv. Wanted—Sewer and Water Improvements.

Mo., Harrisonville—City will construct sewer system; will vote Jan. 9 on \$60,000 bond issue. Address The Mayor. (Lately noted.)

Mo., Trenton—City Council receives bids until Dec. 20 for construction of sanitary sewer in District No. 18.

N. C., Albemarle—For proposal details see Mchv. Wanted—Sewer and Water Lines and Paving.

N. C., Asheville—For full details see Land Development.

N. C., Raleigh—For full details see Land Developments.

N. C., Winston Salem—For full details see Water Works.

Okla., Skiatook—City, Mayor Maxwell, will expend \$26,000 for sewer construction and \$18,000 for water works; will construct about 50 blocks of sewer lines and 45 blocks of water mains; will soon invite bids. (Lately noted).

Tenn., Nashville—For full details see Mchv. Wanted—Underground Connections.

Tenn., Nashville—For full details see Mchv. Wanted—Sewer Construction.

Tex., Harlingen—City let contract at \$61,053.40 to Krueger & Haynes Construction Co. of San Antonio, Texas, for construction of sanitary sewer; plans call for 3000 ft. of 18-in. sewer, 11,260 ft. of 12-in. sewer, 22,480 ft. of 8-in. sewer, manholes, etc. (Lately noted).

Tex., Houston—For full details see Mchv. Wanted—Paving and Sewer Construction.

Tex., Rosenberg—City will vote Jan. 10 on \$50,000 bonds for installation of sanitary sewerage system and disposal plant. Address The Mayor.

W. Va., Weston—City will construct sewerage disposal plant and pave streets; votes Dec. 30 on \$300,000 bonds. Address The Mayor. (Lately noted.)

### Telephone Systems.

Fla., Hastings—Hastings Telephone Co., capital \$15,000, inceptd. with J. G. Atwater, Prest.; C. D. Littlefield, Secy-Treas.

Fla., St. Petersburg—West Coast Telephone Co. will expend \$100,000 on improvements and extensions.

Tenn., Chattanooga—Western Union Telegraph Co., 195 Broadway, New York, reported to erect car repair shop, 156x22-ft., saw tooth monitor type construction, side walls of continuous steel sash, floor and curtain walls of concrete, and roof of cement tile; will lay four lines of track in building, each 240 ft. long with space between tracks utilized for woodworking, metal working shops, lockers, and equip building with hot blast heating system, oiler plant of 150 H. P. capacity electric light and power circuit for the machines; install pipes for compressed air, etc.; plans by Stone & Webster, Inc., New York; bids open. (Supercedes recent item.)

Va., Newport—Blacksburg-Newport Telephone Co., inceptd. with L. O. Price, Prest., Blacksburg; A. L. Farrier, Secy., Newport; maintain telephone line in Giles and Montgomery Counties.

### Textile Mills.

Ala., Montgomery—Montgomery Cotton Mfg. Co., J. W. Sanders, Gen. Mgr. will install 4000 additional spindles.

Ga., Griffin—Kincald Mfg. Co.'s considering installation of 1200 additional spindles.

N. C., Bynum—J. M. Odell Mfg. Co., will install additional mchv.

N. C., Kannapolis—Cabarrus Cotton Mills increased capital from \$3,000,000 to \$4,000,000.

N. C., Lumberton—H. P. Jennings, Prest. of Jennings, Dresden and Lumberton Cotton Mills will construct weaving mill to mfr cotton goods.

N. C., Salisbury—Kesler Mfg. Co., increased capital from \$500,000 to \$1,500,000.

N. C., West Durham—Erwin Cotton Mills Co., increased capital from \$5,000,000 to \$10,000,000.

N. C., Whitnel—Nelson Cotton Mfg. Co., J. L. Nelson, Jr., Secy., Lenoir N. C., will construct yarn mill.

S. C., Fairmont—Fairmont Mfg. Co., Elroy Curtis, Prest. will vote Dec. 22 on increasing capital to \$450,000.

S. C., Greenville—Union Bleachery will construct additional story to dye house; cost \$12,000; 60x120 ft.; mill construction; brick walls reinforced with steel girders; Fiske Carter Construction Co., Contrs.; will vote Dec. 29 on increasing capital to \$1,200,000. (Previously noted.)

Tenn., French Broad—Burnett Knitting Mills, Inc., \$50,000 capital; will erect plant with daily capacity of 500 doz. prs. hosiery; 40x300 ft.; brick construction; cost \$25,000; construction by owner; will install 500 knitting machines; steam power plant; electric drive; develop 100 H. P.; will install finishing, dyeing and other equipment, cost \$50,000. Lately noted. (See Mchv. Wanted—Textile Equipment).

Tenn., Knoxville—Knoxville Cotton Mills, L. D. Tyson, Prest., will increase capital to \$400,000.

Tenn., Lebanon—Lebanon Woolen Mills, J. E. Edgerton, Prest. will increase capital to \$150,000.

Tenn., Mt. Pleasant—Hosiery—Mt. Pleasant Commercial Club, interested in the erection of hosiery mill. Address The Secy. (See Mchv. Wanted—Hosiery Mill).

Tenn., Rogersville—Scott, Kitzmiller, Regar & Wilcox have purchased site 150x200 ft. and will construct addition to present plant, doubling capacity.

Va., Altavista—Altavista Cotton Mills, C. N. Cummock, Prest. let contract to Palmer-Spivey Co., Contrs., Charlotte, N. C. for construction of \$100,000 addition to mill; 1 story; 130x125 ft. and 2 story, 100x125 ft.; daily capacity 20,000 yds. of cotton and silk novelties; Lockwood-Greene Co., Archt. Engr., Charlotte. (Contract for equipment lately noted).

W. Va., Martinsburg—Interwoven Mills, Inc., Chas. W. Kilbourn, Prest., considering increasing capital stock from \$1,500,000 to \$3,000,000.

### Water Works.

Ala., Kilby—State Board of Control & Economy let contract to Gray Artesian Well Co. of Pensacola, Fla. for additional water supply for State Penitentiary.

Fla., DeLand—City voted \$100,000 water works bonds; \$140,000 paving bonds; \$65,000 sewerage extension bonds. C. L. Allen, E. R. Condar, Bonds Trustees.

Fla., Tampa—City will vote on Feb. 20 on \$1,377,722 bonds for purchase of Tampa Water Works and on \$1,272,273 bonds for extensions to plant; Nicholas S. Hill, Jr., New York, Engr.

Ga., Marietta—For proposal details see Mchv. Wanted—Concrete Reservoir.

La., Gretna—M. D. Kostmayer, F. C. Codifer, James F. Turnbull and others interested in organizing company with \$200,000 capital to take over water and waterpower franchise in portion of Jefferson Parish on east bank of river above city extending from protection levee to line of St. Charles parish and from river to Lake Pontchartrain.

La., New Orleans—For full details see Land Developments.

Md., Baltimore—For full details see Land Developments.

Md., Prince Georges and Montgomery Counties—Washington Suburban Sanitary Comsn., Evans Bldg., Washington, D. C., applied to Public Service Comsn. for authority to issue from \$500,000 to \$1,000,000 for extension of water supply system in Prince Georges and Montgomery counties nr. Washington.

Miss., Corinth—For proposal details see

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Mchy. Wanted—Sewer and Water Improvements.

Mo., Paris—City let contract to Ray & Son, Baxter Springs, Mo. for water and light improvements; W. B. Rollins & Co., 209 Ry. Exchange Bldg., Kansas City, Mo., Structural and Mech. Engr. (Lately noted voting \$16,000 bonds for electric light plant and \$10,000 for water works.)

N. C., Albemarle—For proposal detail see Mchy. Wanted—Filter House, etc.

N. C., Asheville—For full details see Land Developments.

N. C., Raleigh—For full details see Land Developments.

N. C., Roxboro—City will install water system; will issue bonds. Address The Mayor.

N. C., Winston Salem—City is constructing water and sewer system in Southside; Capt. H. L. Shaner, Comms. of Public Works.

Okla., Muskogee—For full details see Land Developments.

Okla., Skiatook—For full details see Sewer Construction.

S. C., Greenville—City is considering improvements to water system to increase capacity by 200 per cent. involving expenditure of about \$2,500,000. Howard W. Perry, Supt. of Water Works.

Tenn., Harriman—City Board of Aldermen authorized extension of water mains to supply water to Walnut Hill section of Harriman; will soon call for bids.

Tenn., Nashville—For full details see Mchy. Wanted—Underground Connections.

Tex., Highland Park—City, H. R. Davis, Mayor, will vote Jan. 16 on \$125,000 bonds for water improvements, \$100,000 bonds for streets and \$25,000 bonds for parks. (Lately noted).

Tex., Raymondville—For full details see Electric Light and Power Plants.

Tex., Rotan—City voted \$50,000 bonds for water works improvements. Address the Mayor. (Lately noted).

Tex., Victoria—City let contract at \$14,607 to Pittsburgh—Des Moines Steel Co., Pittsburgh, Pa., for erection of water tower with capacity of 300,000 gals. (Lately noted).

Va., Tappahannock—For full details see Electric Light and Power Plants.

W. Va., Bluefield—For full details see Mchy. Wanted—Reservoir Dam.

W. Va., Martinsburg—City Council ordered the erection of 300,000 gal. reservoir and construction of 1750 ft. of watertight pressure pipe line and the raising of outlet from present reservoir to increase capacity to 200,000 gals.; cost about \$25,000; Norton, Bird and Whitman, Hydraulic Const. Engrs., Munsey Bldg., Baltimore, Md. (Lately noted).

W. Va., Weston—For full details see Electric Light and Power Plants.

### Woodworking Plants.

Ark., Pine Bluff—Flooring—Arkansas Oak Flooring Co. increased capital to \$600,000.

Md., Baltimore—Millwork—American Woodworking Co., Frederick Hempfeld, Prest., 500 W. 26th St., let contract to L. O. Hildebrand, 100 W. Hamilton Ave. to erect 302 ft. 5-in. x 70-ft. fireproof building; mfr. millwork, etc.

N. C., Canton—Pegram Furniture Co., capital \$50,000, inceptd. by R. W. S. and George C. Pegram, Wynter M. Wright.

N. C., Liberty—Handles—Liberty Chair Co. contemplates the mfr. of handles for wooden pails some time during coming year. (See Machinery Wanted—Wooden Pails.)

S. C., Cades—Crates, etc.—V. G. Arnette

& Co., V. G. Arnette, Prest., contemplate establishing woodworking plant; install small saw mill outfit, woodworking equipment and power for same; mfr. crates, laths, shingles, etc. (See Machinery Wanted—Saw Mill Outfit; Woodworking Plant Equipment; Engines and Motors.)

S. C., Greenville—Peerless Folding Ladder Co., F. M. de Sausaun, Jr., Prest., increased capital to \$150,000.

Tenn., Chattanooga—Furniture—Chattanooga Furniture Co., increased capital to \$250,000.

Tenn., Knoxville—Fountain City Lumber & Body Co., capital \$25,000, inceptd. by L. L. Brantley, W. J. Statum and N. A. Brown.

Tenn., Knoxville—Flooring—D. M. Rose & Co., D. M. Rose, Prest., reported to erect plant addition; plans not completed.

Tex., Corsicana—Home Furniture Co., capital \$25,000, inceptd. by S. B. Robinson, V. A. Crawford and M. S. Caston.

Va., Staunton—Basic Furniture Co., capital \$900,000, re-organized with J. L. Witz, Prest., Staunton; Floyd Stombeck, Secy., Waynesboro, Va.; merged with W. W. Putnam Co., Inc.

## FIRE DAMAGE

Ala., Mobile—R. H. Benner Lumber Co.'s planing mill and double dry kiln plant; loss \$150,000.

Ark., Eldorado—North American Oil Co.'s tanks, inflow lines, two bunk houses, etc.; loss \$200,000.

Ark., Fayetteville—Residence of Dean W. N. Gladson, College of Engineering, University of Arkansas.

Ark., Hot Springs—Beasley Lumber Co.'s mill plant; loss \$40,000.

Ga., Barney—H. H. Hiers sweet potato curing and storage house; loss \$12,500.

Ga., Macon—Garrison-Cook Morgan Candy Co., plant 768 Broadway.

Ky., Mt. Sterling—Chenault & O'Rear's store; loss \$15,000 to \$20,000.

La., Monroe—Green House Model Dairy plant; loss \$50,000.

Md., Baltimore—Pattern shops and offices at Mount Clare shops of the Baltimore & Ohio R. R.; estimated loss \$100,000.

Md., Cumberland—Bowling Green Grist Mill, owned by Walker Browning; loss about \$10,000.

Miss., Holly Springs—Masonic Hall Building occupied by Empire Theater, S. W. Crawford Drug Store, C. C. Buford and Masonic bodies.

Miss., Winona—Winona Hotel owned by Mrs. T. H. McNeill, Grenada.

Mo., Kansas City—Franklin Ice Cream Co.'s garage and repair shops at 1110 E. 13th St.; loss \$50,000.

Mo., Poplar Bluff—Borth Pharmacy; Lyceum Theater; loss \$50,000.

N. C., Charlotte—Nevins School on Statesville Road; W. J. Hutchison, Member, County Board of Education.

N. C., Gatesville—W. R. Hayes, W. J. Deans, J. A. Brown and Edgar Cross' stores; Planters' Saving Bank; Riddick & Eason's warehouses.

N. C., Greensboro—Murray Construction Co.'s finishing mill and repair shop on 2nd St.; loss \$7000.

N. C., Wilmington—Plant of Lingo City Metal Works; loss not estimated.

Okla., Kingfisher—Kingfisher Mill & Elevator Co.'s plant; loss \$75,000.

S. C., Spartanburg—Building owned by J. J. Cudd and Ben H. Brown.

Tenn., Nashville—Henry Loveman's residence, Lynwood Blvd. near Harding road.

Tex., Bishop—John J. Butler & Sons' cotton gin.

Tex., Bryan—Munday & Mochiman's building; Parker Astin Hardware Co.'s building.

Tex., Coleman—Robey Building occupied by American Cafe.

Tex., Fort Worth—Star-Telegram's storage and press room; loss \$15,000.

Tex., Gilmer—Holbert Hall at Dickson Orphans' Home; loss \$12,000.

Tex., Orange—Port Vernon Oil Co.'s refinery.

Tex., Seymour—Washington Hotel, owned by W. H. Merrick; loss \$50,000.

W. Va., Buffalo—International Railway Co.'s repair shop, four dwellings; loss \$250,000.

W. Va., Charleston—Spring St. Garage, loss \$100,000; building owned by F. D. Barron.

W. Va., Ethel—Dr. E. B. Thompson's residence.

### Damaged by Storm.

Md., East Brooklyn Sta., Baltimore—Inter-Ocean Oil Co.'s 13,000 bbl. tank of gasoline distillate; loss \$50,000.

W. Va., Clarksburg—Hudson Coal Co.'s head house of the Miller mine; loss from \$10,000 to \$12,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Apartment Houses.

Ga., Atlanta—Massell Realty Co. will erect \$15,000 building, 278 Houston St.; 2 stories; frame.

Md., Baltimore—Edw. L. Palmer, Jr., 513 N. Charles St., prepared plans for Edgevale Apartments, Beech Ave. and 40th St., Roland Park; \$900,000; Gladfelter & Chambers, Roland Ave. and 36th St., are estimating on construction.

Mo., Kansas City—Gus Agee will erect two \$25,000 buildings, 105-07 and 109-11 N. Gladstone Blvd.

Mo., Kansas City—Harry E. Fisher will erect \$50,000 building, 3507-09 The Paseo.

Mo., St. Louis—Lindell Fair Grounds Realty & Investment Co. will erect 3 double flats, McRee and Lawrence Ave. and 2 double flats, McRee and Thurman Aves.

Mo., St. Louis—A. A. Wagner will erect \$500,000 building, 500 block Clara Ave.; 100 suites of 4, 5 and 6 rooms.

Mo., St. Louis—Walsh-McLoney Realty Co. is promoting erection of \$500,000 Egyptian Court Apartments, Delmar Blvd. near Trinity Ave., east of Egyptian Bldg.

Okla., Oklahoma City—C. G. Beveridge, 202 Weaver Bldg., will erect \$10,000 building; 50x50 ft.; oak floors; concrete foundation;

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2 stories; tar and gravel roof; plans and construction by owner.

Okl., Oklahoma City—G. A. Nichols will erect three \$6000 brick buildings, 113 W. 15th and 1205-1208 W. 19th Sts.

Tex., Dallas—O. Clement will erect \$14,500 building, 111-13 Neches St.; 12 rooms; frame.

Tex., Galveston—American Realty Co., Shearn Moody, American Nat. Insurance Co., Vice-Prest., will erect fireproof building, 30th St. and Avenue J; \$100,000; 3 stories; brick; limestone trim; 24 suites, garage and servants' quarters; court with loggia; Irving G. Harris, Archt. (Lately noted).

Tex., Houston—J. F. Bradford will erect apartment house, Telephone Rd.; \$10,000; 16 rooms, 4 suites.

W. Va., Charleston—Robt. E. McCabe will erect \$39,750 building, Lewis St. near Ruffner Ave.; 36 rooms.

### Association and Fraternal.

Ala., Birmingham—Farrar Blue Lodge, A. F. & A. M., will erect \$20,000 temple, Tuscaloosa and Broad Sts., Elyton; 2 stories; brick; fireproof; Holly & Davis, Contrs.

Fla., Fort Pierce—Fort Pierce Lodge No. 87, A. F. & A. M., will erect temple to cost not less than \$40,000; Palmetto Ave. near Magnolia Ave.

Md., Baltimore—Catholic Daughters of America, 109 W. Mulberry St., will remodel building at 1026 N. Charles St.; 20 rooms and 3 baths; \$75,000; recreational addition at rear.

N. C., High Point—Blue Lodge, Knights Templar and Commandery, A. F. & A. M., will not erect building at present, as lately reported.

Okl., Binger—Corbet Wilkerson Post, American Legion, will erect \$15,000 building; gymnasium, auditorium, offices.

Tex., Beaumont—Beaumont Lodge of Elks will erect \$70,000 temple, Main and Crockett Sts.; 3 stories; 96x80 ft.; swimming pool, showers, lockers, dance room, roof garden, etc.

Tex., Eastland—American Legion will erect building; Y. M. C. A. to supply plans.

Va., Salem—Ancient Free and Accepted Masons will erect \$20,000 to \$25,000 temple, E. Main St. Address W. A. Francis.

### Bank and Office.

Ark., Little Rock—S. S. Harris and Ike Kempner will erect 3 or 5-story store and office building, 6th and Louisiana Sts.

Fla., Orlando—Church Street Bank, Mr. Guernsey, will erect 1-story building; \$50,000; art stone columns; 2 stores on W. Church St.

Mo., Jefferson City—Burch Real Estate & Title Co., will erect \$20,000 building; 3 stories; offices on first floor, efficiency apartments on second and third.

Tex., Dallas—Republic National Bank, W. O. Connor, Prest., will remodel and enlarge building, Main and Field Sts.; safety deposit vaults, 5 new tellers' cages, money elevator, rest room, etc.

Tex., Houston—First National Bank, J. T. Scott, Prest., will erect \$750,000 addition, Franklin and Main Sts.; 9 stories; 100x90 ft.; lobby 28 ft. wide; marble stairway; elevator; 3 floors for use of bank; remainder, offices; Sanguinet, Staats, Hedrick & Gottlieb, Archts.

Va., Richmond—J. Thompson Brown & Co., Leroy Brown, Sr., will erect building.

### City and County.

Fla., Clearwater—Grand Stand, etc.—City voted bonds to erect grandstand, clubhouse and bleachers at baseball park; bids opened Dec. 22; also erect band stand in Community Park. Address The Mayor.

Miss., Pascagoula—Fire Station—City will erect 2-story brick building; first floor for fire station, city offices on second. Address The Mayor.

### Churches.

Ala., Birmingham—West End Cumberland Presbyterian Church plans building. Address The Pastor.

Ala., Montgomery—Church of the Ascension will erect \$20,000 parish house for second unit of building; above-ground basement; concrete and stone; last unit to be erected later at cost of \$60,000.

Ark., Gurdon—Beech St. Baptist Church will erect \$12,000 building; brick veneer; wood floors; brick foundation; composition roof; Witt, Seibert & Halsey, Archts., Texarkana, Tex.; Bert Lowe, Contr., Gurdon; contract includes heating, lighting, plumbing, etc.

Fla., Plant City—First Baptist Church will finish interior of 3-story and basement building; auditorium to seat 1000, assembly hall, 600; steam heating plant, gymnasium, kitchen, etc., in basement.

Ga., Macon—Vineville Methodist Church, Rev. O. F. Cook, Pastor, plans auditorium to seat 1200, Sunday school building and parsonage.

Ky., Ashland—Calvary Episcopal Church, 14th St. and Winchester Ave., Chas. W. Moorman, vestryman, will erect \$15,000 addition; 1 story; brick; W. I. Kalter, Archt.-Constr. Supvr., care Ashland National Bank.

Ky., Owensboro—First Baptist Church, E. E. Anderson, Chrmn. Bldg. Comm., will erect \$65,000 building; R. H. Hunt, Archt., Chattanooga, Tenn.

La., New Orleans—Jacob Paternostro is chairman of committee to erect Catholic Church near Amesville, Jefferson Parish.

Md., Baltimore—Evangelical Lutheran Church will erect building, 33rd and Taylor Sts.; 120x53 ft.; basement and 1 story; faced with Mt. Airy granite; cast stone trim; slate roof; wood floors; heating not in general contract; J. A. Dempwolf, Archt., York, Pa.; bids opened Dec. 20.

Miss., Ellisville—Baptist Church will erect \$10,000 Sunday school building. Address The Pastor.

N. C., Burlington—Webb Avenue Methodist Episcopal Church will erect \$25,000 building; auditorium to seat 500, Sunday school department, 500. Address The Pastor.

N. C., Salisbury—St. John's Lutheran Church is considering erection of building on W. Innes St. near post office. Address The Pastor.

Okl., McAlester—First Presbyterian Church, A. B. Ringland, Chrmn. Bldg. Comm., receives bids until Jan. 15 to erect 2-story and basement building; brick and stone trim, plans and specifications from Hawk & Parr, Archts., Oklahoma City, and from Bldg. Comm.

Okl., McAlester—Phillips Memorial M. E. Church, South, O. P. Williams, Secy. Bldg. Comm., will erect \$75,000 building; brick; Bedford stone trim; 3 stories; 104x88 ft.; wood floors; reinforced concrete foundation; wood and composition roof; Jewell Hicks, Archt., 19½ W. Main St., Oklahoma City; M. Williamson, Constr. Supervisor, McAlester; heating, plumbing and electric wiring not let. (Lately noted.)

Tenn., Covington—First Presbyterian Church, W. S. Mayes, Chrmn. Bldg. Comm., will erect \$50,000 building, Main and Church Sts.; temple type; 56x103 ft.; concrete and hardwood floors; concrete foundation; 3 stories including basement; tile or asbestos shingle roof; steam or hot air fan system of heat; city lights; folding doors; J. E. Greene, Archt., Birmingham, Ala.; owner builds with superintendent; heating, lighting and plumbing not let. (See Mch. Wanted—Brick; Interior Finish; Art Glass).

Tex., Austin—First Methodist Church, Rev. Edward R. Barcus, Pastor, will erect \$175,000 building, 12th and Colorado Sts.; Sanguinet, Staats, Hedrick & Gottlieb, Archts., Fort Worth and Houston; Joe Macken, Austin, contr. for excavation.

Tex., Dallas—Oak Cliff Lutheran Church, Rev. W. M. Medler, Pastor, will erect building, Center and Adams Sts.; frame; 24x58 ft.; construction begun.

Tex., Fort Worth—St. Paul's Methodist Church, Rev. C. D. Mead, Pastor, will erect \$35,000 Sunday school building; brick; gymnasium in basement; 2 assembly rooms; sliding partitions.

Tex., San Antonio—St. Mary's Church, Father A. C. Dusseau, Pastor, will erect \$300,000 building, St. Mary's and College Sts.; 80x180 ft.; P. B. Gaenslen, Archt., Alamo Bank Bldg.; bids opened Jan. 3. (Previously noted.)

Tex., Waco—Austin Avenue Methodist Church, J. R. Milan, Chrmn. Bldg. Comm., will erect \$100,000 addition; 83x100 ft.; auditorium to seat 2000, balcony, lobby 10x78 ft., Sunday school in basement to accommodate 1200, kitchen, service rooms, rest rooms, etc.; sub basement for heating plant; Gothic architecture; reinforced concrete, brick, stone and steel; steam heat and air cooling ventilating system; Milton W. Scott & Co., Archts. (Lately noted.)

Va., Petersburg—St. Paul's Church plans to erect parish house, Sunday school building and rectory and install pipe organ. Address The Pastor.

Va., Pulaski—Christ Episcopal Church, N. H. Bunts, Chrmn. Bldg. Comm., will erect \$10,000 parish house, Company St.; 40x100 ft.; kitchen, stage, etc.

### City and County.

Tex., Temple—Auditorium—City, H. J. Graeser, City Mgr., indefinitely postponed plans to convert municipal theatre into public auditorium as lately reported.

### Courthouses.

Fla., Tavares—Lake County will erect courthouse; \$250,000; 64x150 ft.; 3 stories; concrete, hardwood and tile floors; tile roof; brick and stucco; concrete foundation; Alan J. MacDonald, Eustis and F. H. Trimble, Orlando, Archts. (Previously noted.)

Tex., Groesbeck—Limestone County will erect \$400,000 courthouse; brick and concrete; iron stairways. Address County Commrs.

Mo., Springfield—Courthouse—City is considering election on bonds to erect police and court building and construct sewer north of Dickerson Park. Address The Mayor.

### Dwellings.

Ark., Camden—First Presbyterian Church will erect manse. Address The Pastor.

Ark., Camden—R. A. Stacy, Jr. and Ed. Graves will erect 3 bungalows, Cleveland Ave., City Park addition.

D. C., Washington—F. M. Johnson will erect \$12,000 dwelling, 3717 Harrison St., N. W.; 2 stories; frame; owner builds.

D. C., Washington—J. C. Zuble will erect

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2-story dwelling, 5400 Colorado Ave., N. W.; \$15,000; owner builds.

Fla., Miami—Jno. B. Orr, 147 N. E. 6th St. will erect 3 bungalows and two 2-story houses, Spring Garden; three, frame; two, concrete block and stucco; concrete foundations; Georgia pine floors; composition roof; August Geiger and Keihnel & Elliott, Archts.; construction by owner; Alexander Orr, Jr., N. E. First St., contr. for plumbing. (Lately noted.)

Fla., Miami Beach—Mrs. Andrew Wells Robertson will erect \$14,900 residence, 1702 Meridian Ave.

Fla., Tampa—Henry S. Hammer will erect \$15,000 residence and garage, 721 S. Newport Ave.

Ga., Atlanta—Mrs. P. A. Peterson will erect \$18,000 residence, Virginia Highlands; brick veneer; A. F. N. Everett, Archt.; L. W. Rogers Realty & Trust Co., Constr. Supervisors.

Ga., Atlanta—Mrs. O. G. Watson will erect \$21,000 residence, Howell Mill Rd.; frame; slate roof; 12 rooms; steam heat; Hentz, Reid & Adler, Archts.

Ky., Louisville—Mrs. L. K. Barnett will erect \$10,000 residence, 4513 Southern Parkway.

Ky., Louisville—James P. Barnes, Prest., Louisville Ry. Co., will erect residence, Cherokee Parkway and Ransdell Ave.

La., Monroe—Arent Investment Corp., Abe Arent, Prest., will erect 100 dwellings in 1923; about \$5000 each.

La., New Orleans—H. G. Markel, Whitney Central Bldg., is preparing plans for 2 bungalows, Freret and Octavia Sts.; \$8500 each.

La., New Orleans—M. J. Sangasson, Malson Blanche Annex, will erect 4 cottages, Adams and Jeannette Sts. and 7 cottages, Sycamore and Cambonne Sts.; frame; \$25,000.

Md., Baltimore—James T. Barker, 12 E. Read St., purchased tract bounded by Lexington, Saratoga, Smallwood and Bentalou Sts., and will erect about 80 two-story brick dwellings.

Md., Baltimore—E. J. Gallagher Realty Co., 919 Munsey Bldg., will erect 20 dwellings, 3200-38 Elmora Ave.; twenty, 3201-39 Elmora Ave.; twenty, 3200-38 Ravenwood Ave. and twenty, 3201-39 Ravenwood Ave., lately noted; \$200,000; 2 stories; brick; 16x25 ft.; asbestos roof; furnace heat; E. J. Gallagher, Jr., Archt.; owner builds; will also erect 15 dwellings, 800-16 and 801-17 Venable Ave.; \$80,000; 2 stories; brick.

Md., Baltimore—Patrick Keely, 3919 Edmondson Ave., will erect two 2-story brick cottages, N. E. side Edmondson Ave., near North Bend La.; \$18,000 each; 28x40 ft.; 2½ stories; wood and tile floors; stone foundations; slate roof; Fredk. E. Beall, Archt., 306 St. Paul St.; owner builds. (Lately noted.)

Md., Baltimore—Cityco Realty Co., 2 E. Lexington St., will erect 23 two-story brick dwellings, N. side Woodberry Ave. north of Pimlico Circle, lately noted; nineteen, 18.2x30 ft.; four, 14x18 ft.; slag roofs; steam heat; \$48,000; F. E. Beall, Archt., 306 St. Paul St.; owner builds. Company purchased 170-acre tract on Gunpowder river at Penna. R. R. bridge, and will develop.

Md., Baltimore—Carl L. Nitze, The Greenway, will erect residence, St. George's Road and Roland Ave.; Walter M. Gieske, 65 Gunther Bldg.; bids opened Dec. 19.

Md., Baltimore—L. Warrington Cottman, Vice-Prest., Clarence Cottman Co., will erect residence on Charles Street Ave.; Lawrence Hall Fowler, Archt., 300 N. Charles St.; bids opened Dec. 19.

Md., Baltimore—Welsh Construction Co., 11 E. Fayette St., will erect 23 dwellings, 1501-25 and 1506-24 N. Payson St.; 2 stories; brick; 18.10x30 ft.; slag roofs; \$50,000; Geo. Wessel, Archt., 2752 Winchester St.; owner builds. (Lately noted.)

Md., Baltimore—Murray & Haines, Inc., Garrison Blvd. and Duvall Ave., will erect 2 frame bungalows, Lawina Ave. near Bate-man Ave.; \$15,000; 1½ stories, construction by owner.

Md., Baltimore—Wm. J. Heckman, 2113 Greenmount Ave., will erect 8 dwellings, S. W. side Cokesbury Ave., northwest of 23rd St.; also 8 dwellings, east side Montebello Ave., south of Cokesbury Ave., lately noted; 2 stories and basement; brick; 17.6 x 34 ft.; hardwood and concrete floors; stone foundations; composition roofs; hollow fireproof and interior tile; metal ceilings; plaster board; \$3500 each; pipeless furnace or hot water heat; desires bids on all building material; sub contracts not let; excavation to Ed Hughes, 2345 Taylor Ave. (See Mech. Wanted—Building Material).

Md., Baltimore—Northwest Real Estate Co., Geo. R. Morris, Prest., Morris Bldg., purchased 80-acre tract, Edmondson Ave. and Franklin Turnpike Rd., to be called Hunting Ridge, and will construct roads, install sewers and erect ten \$10,000 cottages.

Md., Baltimore—Rochester Home Building Co. will erect 22 dwellings, 600-642 E. 37th St.; \$60,000; 2 stories; brick.

Md., Baltimore—Jos. S. Small, Washington Ave., Mt. Washington, will erect five dwellings, Appleby Ave. near Falls Rd.; \$15,000; 2 stories; frame.

Md., Reisterstown—Sylvester Marshall purchased Chattolane Hotel property and will raze hotel, remodel 7 cottages, and erect number of new cottages in spring; Buckler & Fenhagen, Archts., 325 N. Charles St., Baltimore.

Md., Baltimore—Chas. W. Hoot, 435 Augusta Ave., will erect 4 dwellings, 3043-49 Strickland St.; \$10,000; 12.9x38 ft.; 2 stories; concrete block walls; composition flat roofs; G. W. Carstens, Archt., Winchester St.; owner builds and desires bids on stone foundations. (Lately noted.)

S. C., Greenville—J. C. Keys will erect Colonial residence, Earle and Robinson Sts.; 2 stories; brick; 12 rooms and 3 baths; Jones & Trott, Archts.

S. C., Union—Monarch Mills will erect 50 employees' cottages at Union in addition to 100 cottages lately reported to be erected at Lockhart; total \$250,000.

Tenn., Memphis—W. C. Chandler purchased 5-acre tract, Nelson St. and Speedway; will sub-divide and erect number of dwellings.

Tenn., Memphis—W. R. Gilbert will erect 2 dwellings, 1332 and 1338 North Parkway; brick veneer; 7 rooms; total \$10,000; heating \$500 each; garages \$500 each.

Tenn., Memphis—Louis Weiss will erect six 6-room double frame dwellings, DeSoto St.; \$2000 each; L. H. Triplett, Contr.

Tex., Dallas—R. L. Dixon will erect \$40,000 residence, Shenandoah St., Highland Park; Italian type; 2 stories; brick, stucco and hollow tile; slate roof; 12 rooms; L. R. Whitson and Fredk. C. Dale, Archts.

Tex., Dallas—Mrs. T. J. Munn will erect \$11,500 building, 4037-39 Gilbert Ave.; brick veneer.

Tex., Fort Worth—Lester Fleming will erect \$10,000 brick residence, Cheltenham Addition.

Tex., Houston—Houston Lumber & Building Co. will erect four 6-room dwellings and garages, Redan and Merrill Sts.; \$10,000;

also 6-room house and garage, Merrill St.; \$2500.

Tex., Houston—Second Presbyterian Church will erect \$12,000 frame parsonage. Address The Pastor.

Tex., Houston—Damon Wells will erect four 6-room dwellings and garages, Kipling St.; \$14,500; also 6-room dwelling and garage, Welch Ave.; \$3500.

Tex., San Antonio—H. J. Cupples will erect frame residence, W. Russell Place; Beverly W. Spillman, Archt.

Tex., San Antonio—E. N. Requa will erect \$13,000 residence, Kings Highway and Belknap Sts.; 2 stories; brick and stucco; C. B. Schoeppl & Co., Archts.; C. H. Briant, Contr.

Va., Graham—S. N. Hufford, R. E. Baldwin and R. H. Matthews will erect 10 dwellings on South Side, west of Sanders Dr.

Va., Petersburg—Frank F. Whittle, Secy., 439 W. Washington St., will erect \$15,000 residence, Walnut Hill; 2 stories and basement; 38x42 ft.; brick; C. W. Isbell, Archt., Petersburg Savings & Insurance Bldg.

Va., Richmond—T. P. Kerse will erect 2 brick dwellings, 3429-31 Floyd Ave.; \$11,000.

Va., Richmond—Bellevue Park, Inc., will erect 2 brick dwellings, 3219-21 Monument Ave.; \$21,000.

Va., Virginia Beach—L. T. Van Patton, Bankers Trust Co., Norfolk, will erect \$10,000 residence; 2 stories; 31x42 ft.; kella-stone and shingle; Sylvester Corloff, Archt., New Monroe Bldg., Norfolk.

W. Va., Charleston—Wallace Knight will erect \$15,000 residence, 2442 Kanawha St.

W. Va., Charleston—Hugh Stewart will erect \$15,000 residence, Kanawha St. near Chesapeake Ave.

W. Va., Sutton—Will Fisher will erect 2-story residence to replace structure lately noted burned; brick veneer backed with tile; concrete foundation; wood floors; slate roof.

## Government and State.

Md., Edgewood—Officers' Quarters—Constructing Quartermaster, Geo. H. Schumacher, Capt., Edgewood Arsenal, receives bids until Dec. 27 to erect 20 sets of officers' quarters at Edgewood Arsenal; hollow fireproof tile and frame; 27x27 ft.; wood floors; concrete foundations; 1½ stories; asbestos or slate roofs; steam heat; electricity supplied from present plant; kitchens and bathrooms. (Lately noted.)

N. C., Raleigh—Prison Quarters, Hospitals, etc.—State Prison Board, Geo. Ross Pou, Supt., will erect prison quarters, quarters for guards and prison attendants, with hospitals, etc. at Method Farm; Frank Simpson, Archt., Raleigh; also plan tuberculosis colony near Sanatorium.

Tex., El Paso—Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids until Jan. 3 for alterations to post office; drawing and specifications from Custodian at site or from office Supvg. Archt.

## Hospitals, Sanitariums, Etc.

Fla., Bradentown—Dr. Chas. W. Larrabee will erect hospital, Layman grove, Kentucky Ave.; Spanish mission type; 3 units; operating suite, 50x120 ft.; administration, building with rooms for patients, 32x50 ft.; patients' building, 50x100 ft.; all 1 story; hollow tile and stucco; 10 private baths; private porch for each room.

## Hotels.

Fla., Daytona—Gordon B. Hayward will probably erect hotel early in spring.

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Manufacturers Record is published weekly, and is the most complete and reliable source of information for the building industry.



Fla., Oldsmar—Cornwell Real Estate Co., St. Louis, is reported to have purchased holdings at Oldsmar and plans to erect hotel, etc.

Fla., St. Petersburg—S. Lund and associates are reported to erect hotel on Beach Drive and First Ave.

Ky., Louisville—Victoria Hotel Co., 10th St. and Broadway, will receive bids until Dec. 21 to erect \$75,000 addition to hotel; 75x106 ft.; 4 stories; reinforced concrete; brick and stone trim; heating plant in basement, garage and store room on first floor and guest rooms on remaining 3 floors. (Previously noted.)

Mo., Kennett—Lee Shelton, H. B. Pankey and W. F. Shelton, Jr. are interested in organization of \$100,000 corporation to erect hotel; probably 3 stories; 65 to 75 rooms; architect not selected. (Lately noted.)

Mo., St. Louis—Geo. Sokol is promoting 6-story combination store and hotel, Delmar Blvd. and Heman Ave.

N. C., Ahoskie—Chamber of Commerce is promoting erection of hotel.

N. C., Asheville—Dr. E. W. Grove, St. Louis, will erect 200-room commercial hotel to replace Battery Park Hotel; \$600,000; W. L. Stoddard, Archt., 9 E. 40th St., New York; Woodcock & Reed, contract for excavation at \$250,000. (Lately noted.)

N. C., Raleigh—G. Lloyd Preacher & Co., offices at Raleigh, Atlanta and Augusta, are preparing plans for \$250,000 hotel; 8 stories; fireproof; 97 rooms; stone, face brick and terra cotta.

Va., Richlands—John and Harvey McGlothlin will erect \$30,000 hotel; 3 stories; 50x70 ft.; 30 rooms on second and third floors; 16 baths; steam heat; business rooms on first floor.

Va., Williamsburg—Williamsburg Hotel Corporation, Frank G. Linekin, Prest., will erect hotel; \$300,000, including golf grounds in connection; 75 rooms; 36 tub baths; 20 showers, 19 rooms connecting; also remodel annex to contain 27 bed rooms with shower baths; A. Byron Williamson, Archt., Newport News. (Lately noted.)

W. Va., Morgantown—Morgantown Hotel Co., Incptd. with \$200,000 capital by Frank Cox, L. S. Brock, Jas. H. McGrew and others; will erect hotel. (Previously noted.)

### Miscellaneous.

Ga., Atlanta—Museum—Atlanta Art Museum, C. B. Bidwell, 27 E. Wesley St., member, will erect building on site overlooking Piedmont Park; \$50,000.

Mo., Brookfield—Fair—Grover Cooper, Ernest Trumbo and others are directors of county fair association and plan to purchase Brookfield fair site; will erect \$6000 grandstand and floral hall; \$2000 livestock and poultry pens and other structures.

N. C., Chapel Hill—Clubhouse—Sigma Nu Fraternity, Geo. Stephens, Asheville, Chrmn. Comm., will erect \$20,000 clubhouse; 30x79 ft.; 2 stories and basement; brick; hardwood floors; brick and concrete foundation; slag roof; marble sills and facings; low pressure steam heat; T. G. Atwood Organization, Archt.-Engr. (Lately noted.)

N. C., Hickory—Clubhouse and Armory—North Carolina Cavalry, Maj. Wade V. Bowman, Commander, will erect \$20,000 clubhouse and armory.

Okla., Muskogee—Baseball Park—Muskogee Baseball Club, Easley Barbour, Prest., will construct baseball park.

Tenn., Knoxville—Clubhouse—Civic Realty Co., W. M. Bonham, Chrmn. Comm., does not contemplate erection of building as lately reported.

Tex., Dallas—Clubhouse—Dallas Women's Club, Mrs. E. L. Bradbury, Secy., temporary quarters, Stoneleigh Apts., is promoting erection of clubhouse.

Tex., Houston—Home—Board of Trustees, Pauline Wolf Estate will erect home for widows and orphans.

Tex., Lubbock—Orphanage—Swinney Orphan Home, Rev. W. L. Swinney, Supt., Canadian, will erect \$100,000 building; Taylor & Peters, Archts., Lubbock. (Lately noted.)

Va., Lynchburg—Clubhouse—Fort Hill Club, Mrs. Arthur Barrow, Chrmn., Bldg. Comm., will erect \$10,000 clubhouse.

### Railway Stations, Sheds, Etc.

Mo., Eldon—Chicago, Rock Island & Pacific Ry. Co., will not erect ice storage house as lately reported.

Mo., Weston—Chicago, Burlington & Quincy R. R. W. T. Krauch, Engr. of Bldgs., 547 W. Jackson Blvd., Chicago, contemplates erection of freight and passenger station.

N. C., Kinston—Norfolk-Southern R. R. Co., F. L. Nicholson, Ch. Engr., Norfolk; Atlantic Coast Line R. R. J. E. Willoughby, Ch. Engr., Wilmington; Southern R. R. J. S. Lemond, Ch. Engr., Lines East, Charlotte; will erect \$50,000 union station.

S. C., Spartanburg—Southern R. R., J. S. Lemond, Ch. Engr., Lines East, Charlotte, N. C., will erect passenger station, Lockhart Junction.

Tenn., Covington—Illinois Central R. R., F. L. Thompson, Ch. Engr., Chicago, will rebuild depot and freight house lately noted burned.

### Schools.

Ala., Decatur—School Board, D. D. McGehee, Chrmn., will receive bids until Jan. 1 to erect \$125,000 high school on Pond St.; plans and specifications at office D. O. Whilldin, Archt., Title Guarantee Bldg., Birmingham. (Lately noted.)

Ala., Mobile—Mobile County Board of School Commrs., S. S. Murphy, Prest., will erect grammar school in burned area; \$56,000; 11 classrooms, kindergarten, manual training and domestic science rooms; bids opened Dec. 19 for general construction, heating and plumbing; Wm. H. March, Archt., 82 St. Francis St. (Lately noted.)

Ala., Montgomery—City Board of Education will erect school on 7-acre site of Highland Park property. (\$1,000,000 bonds previously noted available.)

Ark., Paroquet—School Board will erect building.

D. C., Washington—District Commrs., Cuno H. Randolph and others, 509 District Bldg., will erect Langley and Macfarland Junior High Schools; 3 stories; 192x142 ft.; 24 classrooms; reinforced concrete and wood block floors; slag roof; concrete foundation; metal doors, steel sash and trim; wire glass; ventilators, split system of heating and ventilating; A. L. Harris, Archt., 422 District Bldg., Washington; Michael Serretto, 3 Tremont St., Boston, is lowest bidder at \$592,000 (Lately noted.)

Fla., Key West—County Board of Public Instruction, Virgil S. Lowe, Supt., will receive bids until Dec. 23 to erect 2 concrete schools; bids separately or as a whole.

Ga., Attapulgus—School Board will erect \$30,000 building to replace structure recently burned.

Ga., Cave Springs—Cave Springs Consolidated School Dist., voted \$10,000 building bonds. Address School Dist Trustees.

Ga., Macon—Bibb County Board of Educa-

tion will erect boys' high school on Napier Heights; Curran R. Ellis, Archt. (Lately noted.)

Ky., Anchorage—School Board, Dr. J. P. Winston, Chrmn., is considering erection of auditorium and gymnasium.

Ky., Ashland—School Board, P. D. Wells, Secy., will erect junior high school on E. Bath Ave.; \$100,000; fireproof; auditorium to seat 600, gymnasium, manual training, domestic science departments, etc.; Tyson & Foster, Archts. (Lately noted.)

Ky., Lexington—University of Kentucky plans to erect stadium; reinforced concrete; seating capacity, 1500; A. O. Whipple, Archt., Engr., University of Kentucky.

Ky., Louisville—Board of Education, Samuel D. Jones, Bus. Director, 8th and Chestnut Sts., will receive bids until Dec. 22 for additions, alterations, plumbing, electrical work, heating and ventilating at J. B. Atkinson School; Edgar A. Rassinier, Archt., 8th and Chestnut Sts.; Lewis & Warren, Heating and Ventilating Engrs., Realty Bldg.

La., Baton Rouge—Louisiana State University will erect power house and engineering shops; 1 story; 325 ft. with 4 wings each 100 ft. long; brick and concrete; concrete and wood block floors; Theo. C. Link, Archt., Box 587, Baton Rouge; Estes, Williams & Ragsdale, Memphis, Tenn., low bidders at \$147,158. (Lately noted.)

La., Crossett—Board of Education will erect \$15,000 building to replace negro school recently burned.

La., Many—Sabine Parish School Board, S. H. Potter, Prest., will erect \$25,000 school in Noble School Dist. No. 38 and \$15,000 building in Alliance School Dist. No. 2.

La., Noble—Sabine Parish School Board, S. H. Potter, Prest., will erect \$25,000 school. (See La., Many).

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., will receive duplicate bids until Jan. 10 at office Richard Gwinn, City Register, City Hall, to erect Forest Park Senior-Junior High School, Hawthorne and Clarendon Aves.; plans and specifications at office J. F. Crowther, Inspector of Bldgs., City Hall; Parker, Thomas & Rice, Archts., Union Trust Bldg.

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., City Hall, will erect industrial school on 7½-acre site between Brooklyn and Curtis Bay.

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., will erect elementary school at Lexington St. and Central Ave.; 3 stories, basement and play-roof space; 100x270 ft.; 24 classrooms; brick and hollow fireproof tile; concrete foundation and floors; limestone trim; interior tile; steel trusses; tile roof; metal doors; ornamental terra cotta; steel sash and trim; wire glass; Buckler & Fenhagen, Archts.; Henry Massart, Engr., both 325 N. Charles St.; Henry Adams, Engr., Calvert Building; Chas. L. Stockhausen Co., Gay and Water Sts., lowest bidder at \$463,428. (Lately noted.)

Miss., Picayune—City School Board, Prof. S. L. Stringer, Supt., will erect central high school; \$75,000 bonds voted.

Mo., Buckner—Board of Education plans to erect high school.

Mo., Cape Girardeau—St. Vincent's Academy will expend \$10,000 for improvements.

Mo., Columbia—Univ. of Missouri, Edw. E. Brown, Bus. Mgr., will erect \$500,000 Memorial Union Building of 3 units; Gothic type; memorial chamber for Missouri's Hall of Fame, chimes, and offices pertaining to Memorial Union; south wing, women students and north wing, men students; Jamie-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

son & Spearl, Archts., 1116 Arcade Bldg., St. Louis; Stewart Bros., Columbia, contrs., for foundation for tower.

Mo., Liberty—Board of Education plans to erect high school; election on \$150,000 bonds.

Mo., Nevada—Board of Education will erect high school and 2 grade schools; \$320,000 bonds voted.

Mo., Sedalia—Board of Education will erect high school; \$500,000 bonds voted. (Lately noted.)

Mo., St. Charles—Board of Education, Dr. T. L. Hardin, Prest., will receive bids until Dec. 28 to erect high school; separate bids for general work; heating and ventilation; plumbing, sewerage and gas fitting; electric work; \$150,000; 110x125 ft.; semi-fireproof; steam heat; Wm. B. Ittner, Archt., Board of Education Bldg., St. Louis. (Previously noted.)

Mo., St. Louis—Board of Education will erect 12-room grade school, 23rd and Walnut Sts.; R. M. Milligan, Archt.

Mo., St. Louis—Board of Public Service, Room 208, City Hall, will receive bids until Jan. 2 to erect service building for St. Louis Training School for Feeble Minded, Hall Ave. and Bellefontaine Rd.; plans and specifications at office of president, Room 304, City Hall.

N. C., Burlington—City will vote Jan. 9 on \$150,000 bonds to erect 3 grammar schools. Address Board of Education.

N. C., Charlotte—County Board of Education, W. J. Huchison and others, will rebuild burned structure.

N. C., Newland—Avery County Board of Education, Frank A. Edmonson, Secy., will erect 16-room school with auditorium in Cranberry Consolidated School Dist.; \$42,500; 60x148 ft.; 2 stories and basement; brick; wood floors; slate roof; concrete foundation; L. N. Boney, Archt., Wilmington. (Lately noted to open bids Dec. 5).

N. C., Winston-Salem—City, Jas. G. Hanes, Mayor, will erect Central Salem and Southside graded schools; former, 2 stories; 100x160 ft.; C. R. Faw, Archt., Winston-Salem; latter, 1 story; 260x116 ft.; Harold Macklin, Archt., Winston-Salem; hollow fireproof tile; wood and concrete floors; concrete foundation; tile roof; metal lath; ventilators; Southeastern Construction Co., Charlotte, low bidder at \$151,200, exclusive of heating, plumbing and electric work; Chas. M. Crawford, Supt. of building construction. (Lately noted.)

Okla., Chickasha—Board of Education, B. B. Barefoot, Prest., is considering \$175,000 bond issue for schools.

Okla., Spiro—Board of Education plans to erect \$75,000 high school; bond election considered.

S. C., Chester—School Board, M. B. Brockman, Supt., will erect high school; \$150,000 bonds voted. (Lately noted.)

S. C., Columbia—Columbia College will erect building for business school; auditorium to seat 1400.

S. C., Florence—Tans Bay School Trustees will erect building; 6 rooms, auditorium, manual training and domestic science departments; L. McD. Hicks, Archt.

S. C., Greenville—Board of Education will erect high school in Fork Shoals section.

S. C., Greenville—County Board of Education will erect \$25,000 school on Augusta Rd.; 100 ft. frontage; 6 classrooms and additional utility classrooms in basement; brick; Beacham & LeGrand, Archts.; bids ready about Jan. 1. (Lately noted.)

S. C., Pelzer—Pelzer Manufacturing Co.,

will rebuild schools lately noted burned. (See Theaters.)

Tenn., Chattanooga—Board of Education will erect Park Place Grammar School on E. 9th St.; \$70,000; 2 stories and basement; 12 classrooms and auditorium; concrete; C. E. Bearden, Archt.

Tenn., Knoxville—Knox County Industrial School will erect additional building; \$18,000 to \$25,000; A. B. Bauman, Archt.

Tex., Brownwood—School Board will erect \$100,000 junior high school.

Tex., Denton—School Board will erect structure to replace Lee School; election Jan. 13 on \$65,000 bonds.

Tex., Lockhart—School Board, A. D. Mebane, Prest., will receive bids until Dec. 28 to erect high school; fireproof; separate bids for plumbing, heating and wiring; plans and specifications at office C. H. Page & Bro., Archts., Austin.

Tex., Moulton—Moulton Independent School Dist. Trustees will erect addition to building; \$12,000 bonds voted.

Va., Petersburg—City School Board, F. M. Martin, Supt. of Schools, will erect building on E. Bank St., East Ward; bids opened Dec. 28; Fred A. Bishop, Archt., McIlwaine Bldg.

W. Va., Montgomery—New River State School will erect combination gymnasium and auditorium; \$35,000; 3 stories; 120x94 ft.; seating capacity, 2000; gymnasium, 60x90 ft.

### Stores.

Fla., Key West—G. A. T. Roberts will erect 5-story business building, Eaton and Williams Sts.

Ga., Canton—B. F. Coggins Department Store will erect building; 3 stories and basement; 75x150 ft.; plate glass windows.

Miss., Hazlehurst—Jno. Bass will erect 3 store buildings; \$40,000; brick, concrete and steel.

Mo., Kansas City—Robt. C. Martin will erect 2-story business and apartment building, 34th St. and Troost Ave.

Mo., Kansas City—Rothschild & Sons will erect 4-story and basement building, 10th and Main Sts.; 40x124 ft. lot; F. E. McIlvain, Archt.

Mo., Kansas City—D. Willner will erect store rooms on site 100x150 ft., 25th St. and Troost Ave.

Mo., St. Louis—Albert Harral will erect business building, Delmar Blvd. and Leland Ave.

Mo., St. Louis—A. Perone will erect 2-story store, Delmar Blvd. west of Westgate Ave.

N. C., New Bern—Albert Bangert will erect 2-story brick building on Middle St.

Okla., Weleetka—Ira Rolls and W. R. Blake will erect 2-story brick building at Main St. and Creek Ave.

S. C., Greenville—C. A. Allen will erect 3-story business building on Brown St.; 35x100 ft.; Beacham & LeGrand, Archts.

S. C., Greer—Sullivan-Markley Hardware Co., Greenville, purchased controlling stock in Wood-Mendenhall Co., and will organize Sullivan-Eskew Hardware Co. with \$50,000 capital; T. E. Eskew, Mgr., Greenville; will erect warehouse, 30x60 ft.; galvanized iron on steel frame; brick and concrete founda-

tion; galvanized iron roof; also remodel and improve store building.

Tenn., Chattanooga—Horgan & Klye will erect \$10,000 building on Missionary St. between Dorris and Bennett Sts.; 2 stories; brick.

Tex., El Paso—Mosson & Co., Robt. P. Mosson, Prest.-Treas., will erect building on S. Campbell St.

Tex., Fort Worth—C. C. Peters will erect brick building, 11th and Calhoun Sts.; \$25,000; 1 story; 18 stores.

Tex., Waco—Waco Drug Co. increased capital stock from \$250,000 to \$400,000 and will erect addition to building, Mary and 5th Sts.; 3 or 4 stories; E. McIver Ross, Archt.

### Theaters.

D. C., Washington—Crandall Theaters, H. M. Crandall, Mgr., 932-36 F St., N. W., will erect Tivoli Theater, 14th St. and Park Rd., N. W.; \$650,000; 220x109 ft.; seating capacity, 2500; Italian renaissance type; 12 two-story shops on 14th St. side; Thos. W. Lamb, Archt., 644 8th St., New York. (Previously noted.)

La., Shreveport—Saenger Amusement Co., Inc., Tulane and Liberty Sts., New Orleans, will remodel Grand Opera House; \$250,000 to \$300,000; seating capacity 2000; Chas. G. Davis, Archt. for company.

Mo., St. Louis—Walter A. Hays, Jos. H. Grand, Harry J. Cohen, Kingdel Bldg., and Chas. S. Bowman, Bowman Printing Co., are reported to erect 5-story building on Delmar Blvd. for theater to seat 1200, 7 stores and 48 apartments of 2 and 3 rooms; \$400,000.

N. C., Charlotte—C. C. Hook prepared tentative plans for theater on E. Trade St.

S. C., Pelzer—Pelzer Manufacturing Co., Ellison A. Smith, Prest., will rebuild moving picture theater and 2 schools lately noted burned.

### Warehouses.

Md., Baltimore—Jos. S. Goldsmith, Munsey Bldg., will alter warehouse at Scott and Ridgely Sts. and erect addition 130x70 ft.; bids opened Dec. 20; following contractors estimating: J. Henry Smith, 300 E. 33rd St.; Reinhart Construction Co., Calvert Bldg.; John Hiltz & Sons Co., 343 St. Paul St.; DeCou & Davis, 404 W. Baltimore St.; Childs and Miller, 14 W. 20th St.; F. E. Beall, Archt., 306 St. Paul St.

Tenn., Knoxville—Anderson-Dulin-Varnell Co. plans to erect building, State St. and Union Ave.

Tex., El Paso—Acetylene Products Co., W. J. Chesak, Gen. Mgr., 412 Myrtle St., will erect warehouse, Brentwood Heights.

Tex., San Antonio—San Antonio Compress Co. will erect shed and platform, Hoefgen St.; \$10,000.

Tex., Waco—Weathered Transfer & Storage Co., will erect building, Mary and 13th Sts.; 3 or 4 stories; 54x103.9 ft.; fireproof; reinforced concrete; concrete wharves; electric elevators; automatic fire sprinkler system; Milton W. Scott & Co., Archts.

Va., Norfolk—Norfolk Coöperage Co., J. F. Ferguson, Prop., is considering erection of warehouse. (See Machinery Wanted—Building Material.)

## BUILDING CONTRACTS AWARDED

### Apartment Houses.

Ala., Birmingham—Altamont Investment Co., H. N. Maloney, Prest., will erect Altamont Apartments, Highland Ave. and Iroquois St.; \$1,100,000; 7 stories; fireproof; 108

apartments; 6 stores on ground floor; ballroom, roof garden and promenade on top floor; brick; terra cotta trim; concrete, oak and tile floors; hollow fireproof and interior tile; metal doors; ventilators; refrigeration;

vantage to all concerned if the Manufacturers Record is mentioned.

In writing to parties mentioned in this department, it will be of ad

two high speed elevators; J. E. Salie, Archt., Empire Bldg.; F. R. Payne, Contr.; G. L. Miller & Co., Atlanta, arranging finances. (Lately noted.)

Va., Norfolk—Cora Hancock will erect \$12,000 building, block 6, plat of Lafayette Residence Park; 4 suites; brick and shingle; J. A. DuVall, Sr., Contr.

### Bank and Office.

Fla., Orlando—Orlando Bank & Trust Co., G. H. Strickland, Cash., will erect \$250,000 building, Orange Ave.; 10 stories; 46x76 ft.; steel and concrete; concrete floors; hollow fireproof and interior tile; ornamental terra cotta; safes; metal doors; vaults; wire glass; mail chutes; vault lights; steel sash and trim; steam heat and electric wiring, \$25,000; elevators not decided; W. L. Stoddard, Archt., 9 E. 40th St., New York; A. Bentley & Sons Co., Contrs., Jacksonville.

Md., Baltimore—Federal Land Bank, V. Vaiden, Pres., Fidelity Bldg., will erect \$175,000 building, St. Paul and 24th Sts.; 1 story and basement with provision for 2 additional stories later; 81x114 ft.; Indiana limestone; mastic and marble floors; slag roof; hollow fireproof and interior tile; metal doors; ventilators; steel sash and trim; wire glass; Wyatt & Nolting, Archts., Keyser Bldg.; M. A. Long Co., Contr., Fayette St. and Guilford Ave. (Lately noted.)

### City and County.

Miss., Jackson—Auditorium-Armory—City, A. J. Johnson, City Clerk, and Hinds County, W. S. Wells, Clk. Hinds County Board of Supervs., will erect \$104,000 auditorium-armory building, Congress and Pearl Sts.; 160x160 ft.; concrete foundation; steel frame; concrete floors; composition roof; N. W. Overstreet, Archt.; I. C. Garber Construction Co., Contr.; Ray Wright, heating, \$8200; Davis Plumbing Co., plumbing, \$4375; electric wiring, A. E. Koerner, \$4300.

N. C., Greensboro—Library—Carnegie Negro Library Assn., W. B. Windsor, Supervising Principal Negro Schools, will erect concrete, brick and tile library building; \$15,000, including equipment; 1 story and basement; 25.6x46.6 ft.; hardwood floors; tin roof; heating plant in basement; F. A. Weston, Archt.; L. A. Jackson, Contr., Banner Bldg.; Hunt Bros., steam heat and plumbing; electrical work in general contract.

Okla., Ponca City—City Hall and Fire Station—City will erect addition to auditorium for city hall and fire station; fireproof; 98x112 ft.; 3 stories; reinforced concrete and hardwood floors; tar and gravel roof; hollow fireproof and interior tile; vault door; ventilators; Layton, Smith & Forsyth, Archts.; Holmboe Co., Contrs., at \$87,000; both Oklahoma City; sub-contracts not yet let.

Tex., Coleman—Jail—Coleman County will remodel jail; Cate & Rush, Contrs.

Tex., San Antonio—Clubhouse—City, O. B. Black, Mayor, will erect municipal golf course clubhouse, Brackenridge Park; rustic cobble stone type; 2 stories; concrete, stucco and natural stone; mosaic floors with wainscoting; Ralph H. Cameron, Archt., City Nat. Bank Bldg.; Chas. Schoenfeld, Contr., at \$34,900; construction begun.

### Courthouses.

Ga., Adel—Cook County will erect courthouse; 2 stories; contract let. Address County Commrs.

Tex., Memphis—Hall County, W. A. McIntosh, County Judge, will erect fireproof courthouse; C. H. Page & Bro., Archts., Austin; Walker Construction Co., San Antonio, Contrs., at \$121,520.

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### Dwellings.

Ala., Jasper—A. S. Preston will erect 6-room brick bungalow, East Jasper; L. J. Wilson, Contr.

D. C., Washington—L. S. Bahusen will erect two 2-story frame dwellings, 2604-05 17th St., N. W.; about \$10,000; J. M. Foster, Contr.

Fla., Miami Beach—Miss E. J. Wilson will erect 6-room bungalow, Jefferson Ave. and 4th St.; \$7500; A. R. Ogle, Contr.; plans additional bungalows.

Md., Baltimore—Saml. L. Willard, Coca Cola Bldg., will erect \$70,000 residence Greenway near Wendover Rd.; Guilford; 3 stories; brick; 40x90 ft., with wing 22x45 ft.; vapor heat; slate roof; 22 rooms and 6 baths; Otto G. Simonson, Inc., Archt., Md. Casualty Tower; Thos. Hicks & Sons, Inc., Contrs., 106 W. Madison St.

Md., Baltimore—Howard P. Skinner, 404 Evesham Ave., will erect 4 cottages, 373-79 Evesham Ave.; \$17,000; 1 story; frame; one, 22x28 ft. and three, 24x26 ft.; asphalt roofs; wood cornices; hot air heat; Harry N. France, Contr., 1828 Rutland Ave.

Miss., Greenwood—Mrs. F. M. Southworth will erect \$50,000 residence, S. Mississippi Ave.; Frank R. McGeoy, Archt.; S. G. Beaman, Contr.; construction begun.

Mo., Columbia—Samuel Daily will erect residence, Bass Ave.; 2 stories; brick veneer; 8 rooms; C. E. Hobart, Contr.

Mo., Kansas City—L. L. Marcell, Pres., White Eagle Oil & Refining Co., will erect Italian type residence, Overhill Rd., Colonial Court, Mission Hills; 2 stories and basement; 115x50 ft.; tile roof; brick; hollow fireproof and interior tile; hardwood floors; ornamental terra cotta; Keene & Simpson, Archts.; Long Construction Co., Contr.; heating, plumbing and electrical work not let.

N. C., Charlotte—Oakhurst Land Co. will erect 6 dwellings, 1317, 1411-13-15-16, 1608 Surrey Road; \$18,200; 8 rooms for one, balance 5 rooms; W. H. Mahone and J. S. Tarleton, Contrs.; construction begun.

Tex., Austin—G. E. Bryson, M. H. Reed & Co., will erect \$18,000 residence in Enfield; brick; Gliesecke & Harris, Archts.; Blackmore Bros., Contrs.

Va., Portsmouth—Cendricourt Realty Corp. will erect \$10,000 dwelling, lot 1, block 2, plat of Meadowbrook; 8 rooms; brick; Fain Construction Co., Contr.

### Hospitals, Sanitariums, Etc.

Tex., Dallas—First Presbyterian Church will erect Richmond Freeman Hospital for children's clinic, 3617-23 Maple Ave.; \$45,000; brick and concrete; 97x40 ft.; Lang & Mitchell, Archts.; Inge Construction Co. Contr.

### Hotels.

La., Monroe—Hotel Monroe, J. E. Doughtie, Mgr., will erect \$65,000 annex and expend \$20,000 to remodel present building; addition 3 stories; 40x150 ft.; brick and frame; 48 rooms with bath; Wm. Drago, Archt., 7831 Jeanette St.; Frank Masling, Contr. (Lately noted.)

Mo., Kansas City—Stats Hotel Co., Plaza Hotel, will erect 10-story hotel, 12th and Wyandotte Sts.; 50x142 ft.; concrete; hollow fireproof and interior tile; concrete floors, foundation and roof; metal doors; ornamental terra cotta; steel sash and trim; wire glass; ventilators; steam heat; McKecknie & Trask, Archts.; Gloyd Bldg.; Mosby-Goodrich Construction Co., Contr., New York Life Bldg.; W. W. Huff, Engr., Interstate Bldg.; Arthur McKinley Co., 10th St. and Troost Ave., heating and plumbing; Hutch-

inson Constr. Co., 14th and McGee Sts., electric lights. (Lately noted.)

### Railway Stations, Sheds, Etc.

Tex., Dallas—Gulf, Colorado & Santa Fe Ry. Co., F. Merritt, Ch. Engr., will erect freight station; 60x301 ft.; brick and reinforced concrete; tar and gravel roof; asphalt and concrete floors; steam heat; electric lights; Sumner Solitt Co., Contr., San Antonio. (Lately noted.)

### Schools.

Ark., Walnut Ridge—School Board, S. B. Ellis, Secy., will erect high school; 3 stories; brick; Frank W. Gibb & Co., Archts., Gazette Bldg., Little Rock; Carty Constr. Co., Contr., Walnut Ridge. (Lately noted.)

Fla., Jacksonville—Duval County Board of Public Instruction, F. A. Hathaway, Supt., will erect 2 junior high schools, 10th and Hubbard Sts. and Stockton and College Sts.; 2 and 3 stories; 250x160 ft.; 36 rooms; 2 gymnasiums; brick; reinforced concrete, hollow fireproof tile and wood joist construction; tile and 4-ply and tar and gravel and 5-ply roofs; concrete foundations; ornamental terra cotta; interior tile; rolling partitions; vacuum steam heat; electric lights; clock, interphone system; ventilators; Greeley & Benjamin, Archts., Jacksonville; Wm. B. Ittner, Asso. Archt., Board of Education Bldg., St. Louis; O. P. Woodcock, contr. at \$559,800; Hooker & Lightbody, heating and plumbing, \$76,392; both Jacksonville; equipment to cost \$50,000. (Lately noted.)

Ky., Louisville—Board of Education, Samuel D. Jones, Bus. Director, will erect addition to DuPont Manual Training High School; \$92,650; H. A. Doll & Co., Contrs. (Lately noted.)

Miss., Petal—Forrest County School Board, J. C. Clay, Supt., Hattiesburg, will erect building in Leaf River Consolidated School Dist.; \$34,444; brick; wood floors; N. W. Overstreet, Archt., Jackson; Currie & Corley, Contrs., Raleigh, Miss. (Lately noted.)

N. C., Gastonia—School Commissioners, R. C. Patrick, Secy., will erect South Gastonia Graded School; \$56,000; 2 stories; 10 classrooms and auditorium; wood floors; composition roof; steam heat; White, Streeter & Chamberlain, Archts.; Gulon & Withers, Contractors. (Lately noted.)

N. C., Greensboro—City School Board, J. Norman Willis, Chrmn., will erect grammar school on S. Cedar St.; Starrett & Van Vleck, Archts., 8 W. 40th St., New York; Palmer-Spivey Construction Co., contr. at \$129,450; Hunt Bros., plumbing, \$16,500; W. W. Dick, heating and ventilating, \$21,233; all Greensboro. (Lately noted.)

Tex., San Antonio—Board of Education will erect high school at New Braunfels and Aransas Aves.; 1 story; reinforced concrete, brick and hollow tile; wood and composition floors; Phelps & DeWees, Archt., Gunter Bldg.; W. E. Simpson Co., Engr.; L. E. Shelton, contr. at \$145,917; Braden & Hudson, plumbing, \$10,279; Kirkwood & Wharton, wiring, \$6775; A. H. Shaffer, heating \$8117. (Lately noted.)

Tex., Wichita Falls—City School Board, W. W. Brown, Secy., will erect junior college and high school; \$465,490; Wm. B. Ittner, Archt., Board of Education Bldg., St. Louis, and Voelcker & Dixon, Asso. Archts., Wichita Falls; Kreipke & Schaffer, Contrs., Oklahoma City, Okla. (Lately noted.)

### Stores.

Tenn., Memphis—R. B. Willroy will erect three 1-story brick stores, Overton Park Ave. and N. Willett St.; brick; stone trim; plate glass fronts; D. B. Kuhlman, Contr.



Tex., Bryan—Directors, Dr. J. W. Howell Estate will erect business building. Main and 28th Sts.; gray pressed brick; glass front; contract let.

Va., Portsmouth — Maurice B. Langhorn will erect \$10,000 building, Harlem Ave. and

Courtlandt Pl.; 2 stories; frame; J. W. Hoffer, Contr.

### Warehouses.

Ala., Huntsville—Halsey Grocery Co. will erect warehouse on Jefferson St.; 40x122 ft.; brick; Baxter Bros., Contrs. (Lately noted.)

Fla., Miami—City, F. H. Wharton, Mgr., will erect warehouse and office building at city docks for Clyde Steamship Co.; \$46,146; former, 80x400 ft.; 1 story; latter, 25x75 ft.; 2 stories; concrete floors; composition roofs; H. Hastings Mundy, Archt.; C. W. Murray, Engr.; Halsema Bros., Contrs.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

Art Glass (Window)—W. S. Mayes, Chrmn. Bldg Comm., First Presbyterian Church, Covington, Tenn.—Florentine and leaded art glass windows for \$50,000 church.

Belt (Conveyor)—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 700 ft. of conveyor belt, 30-in. wide.

Boiler.—Howell Lumber Co., Inc., Sumter, S. C.—To purchase 50 H. P. H. R. T. high pressure boiler.

Boilers.—Hackley Morrison Co., Inc. (Machinery Dealers) 1708 Lewis St., Richmond, Va.—150 H. P., H. R. T. boiler, 150 lbs. pressure, including stack and catalog fittings and fixtures with and without steel casing, quotations requested by wire from mfrs.; 125 H. P., H. R. T. boiler and one 40 H. P. locomotive type boiler, 100 lbs.

Boilers.—J. G. Wells, 10th and Wilmer Sts., Anniston, Ala.—Prices on boilers for creamery.

Boring Mill.—See Machine Shop Equipment.

Bricks.—See Building Materials, etc.

Brick.—W. S. Mayes, Chrmn., Bldg. Committee, First Presbyterian Church, Covington, Tenn.—50,000 to 75,000 face brick and 100,000 to 125,000 common brick.

Brick Plant Equipment.—Sutphin & Snell, Graham, Va.—Prices on Equipment and machinery for shale brick plant, daily capacity 50,000.

Bridge Construction.—Crawford County Commrs., Van Buren, Ark., bids until Dec 27 for 160-ft. bridge over Clear Creek, 2 mi. north of Mountainburg; steel truss, with two 80-ft. spans, or reinforced concrete arch bridge with 3 spans; plans, etc. on file or from State Highway Comsn., Little Rock.

Bridge Construction.—Orangeburg County Highway Comsn., J. W. Smoak, Chrmn., Orangeburg, S. C.—Bids until Jan. 9 for 2 reinforced concrete bridges over Edisto River, on State Route No. 33; one of two 27 ft. spans, and other of three 43-ft. and six 27-ft. spans; 161,895 lbs. steel reinforcement; 766.67 sq. yds. bituminous pavement; F. A. Proj. No. 28-B, Sec. B.; plans on file, and from State Highway Engr.

Bridge Construction.—Cleveland County Commrs., R. L. Weathers, Clk., Shelby, N. C.—Bids until Jan. 1 to build Peeler Bridge over Wards Creek, No. 11 Township; plans, etc., on file.

Bridge Construction.—State Highway Comsn., H. G. Shirley Chrmn., Richmond, Va.—Bids until Jan. 3 for 60-ft. reinforced concrete bridge, girder span, on St. Paul's Church to Brays Fork road, King and Queen, and Essex Counties; Proj. F-171, Route 13; plans, etc., on file or from Dist. Engr.

Bridge Construction.—Alachua County, Bd. of Bond Trustees, Special Road and Bridge Dist. No. 1, Gainesville, Fla.—Bids until Dec. 21 for concrete bridge across Prairie Creek, about 6 mi. east of Gainesville-Hawthorne road; 120-ft. face to face of abutments, plans, etc., from Alva B. Gross, Dist. Engr., Baird Bldg., Gainesville.

Building Material.—J. F. Ferguson, Prop. Norfolk Cooperage Co., Norfolk, Va.—Prices on building material for warehouse.

Building Material.—Wm. J. Heckman, 2113 Greenmount Ave., Baltimore, Md.—Building Material.

Building Materials, etc.—Daytona Beach Amusement Co., Inc., Daytona Beach, Fla.—Prices on building materials including; glass; paint; roofing; cement; bricks; etc.

Building Material.—A. M. Lundberg, 5564 A Page Ave., St. Louis, Mo.—Sub-bids on granite, limestone, structural iron, millwork, ornamental iron, roofing and sheet metal, plumbing and heating, electrical work and plastering for \$93,226 post office at Shawnee, Okla.

Car (Railroad Tank).—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase standard gauge railroad tank car, with or without tank, 8000 to 10,000 gal. capacity.

Cars (Steel).—George M. Norwood Brick Co., Raleigh, N. C.—Prices on 18-V body steel cars, 3 yd. capacity, or 10 Western 4 yd. capacity side dump, 36-in. gauge; delivery Selma, N. C.

Cars.—Leaksville Granite Co., Leaksville, N. C.—Prices on second-hand track cars with dump body for quarry, to carry 1½ tons.

Cars (Mine).—R. P. Johnson, (Mchy. Dealers) Wytheville, Va.—Dealers prices on 20 second-hand mine cars, 44 in. gauge, 5 ft. wide on top, 9 ft. long and 26 in. from top of rail to top of car.

Cars (Tank), etc.—Pennsylvania Equipment Co., (Mchy. Dealers) Norwood Station, Pa.—To purchase second-hand railroad business car, either of steel or with steel underframe; also wish to lease for short period, 15 to 25 tank cars, 8000 gal. capacity.

Castings.—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 6-in. C. I. pump castings for Pusey & Jones centrifugal pumps.

Cement.—See Building Materials, etc.

Chain (Non-skid Automobile) Machinery.—United States Auto Twin Hooks & Chain Co., Inc., Box 463, Grafton, W. Va.—To purchase non-skid automobile chain mchy. and dies, etc.

Cold Cream Mixer and Filler.—See Laboratory Equipment.

Collectors (Dust).—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase three cyclone dust collectors.

Compressor (Air).—Battley Machinery Co., (Mchy. Dealers) Rome, Ga.—To purchase second-hand belt power driven or motor driven direct, 2000 ft. capacity, air compressor.

Concrete Reservoir.—City of Marietta, Ga., E. L. Robertson, Chrmn., Board of Light and Water Works, will receive bids Dec. 19 (change of date) for furnishing all labor, materials, equipment necessary for construc-

tion of 1,000,000 gal. concrete reservoir; plans, etc., from Knox T. Thomas, Engr., Forsyth Bldg., Atlanta, Ga.

Conveyors.—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase belt conveyor, 12 ft. between centers, belt 12-in.; one portable conveyor, 20 ft. centers.

Drill.—See Machine Shop Equipment.

Cotton Gin Rig.—Chelsea Gin Co., Chelsea, Okla.—To purchase second-hand gin rig of 5-70 of 4-80 Munger system, for cotton gin at Claremore, Okla.

Crane (Locomotive), etc.—Pennsylvania Equipment Co., (Mchy. Dealers) Norwood, Pa.—To purchase two second-hand 15 to 20-ton and one 25-ton locomotive crane, 8 wheels, 50 ft. boom, outriggers, 2 drums, rigged for using grab bucket and electro magnet.

Creamery Machinery and Equipment.—J. G. Wells, 10th and Wilmer Sts., Anniston, Ala.—Prices on ice cream machines, butter-milk vats, cooler, cans, bottles.

Crusher.—Leaksville Granite Co., Leaksville, N. C.—Prices on second-hand crusher, capacity about 20 tons per hr.

Culvert Construction.—Poinsett County, Board of Directors of Drainage Dist. No. 7, Marked Tree, Ark.—Bids until Dec. 21 for reinforced concrete culvert at Riverdale, Ark.; 2800 lin. ft. Wakefield sheet piling; 7700 cu. yds. concrete; 230 tons reinforcing steel; 2500 sq. yds. block revetment; plans, etc., on file, from Pride & Fairley, Dist. Engrs., Blytheville, Ark., and Elliott & Harman Engineering Co., Consult. Engrs., Memphis, Tenn., and Peoria, Ill.

Rust Removers.—The Korn Co., Sumter, S. C.—To correspond with mfrs. of deoxidine, rust remover.

Derrick.—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—Stiff leg derrick, 50 ft. boom, 2 ton capacity with bull wheel.

Dies.—See Auto Chain Machinery, etc.

Dredge (Pipe Line).—U. S. Engr. Office, Cincinnati, Ohio.—Bids until Jan. 5 to construct one 24-inch. pipe-line dredge.

Drill (Press).—See Machine Shop Equipment.

Dry Kilns.—Howell Lumber Co., Inc., Sumter, S. C.—20x42 ft. L. Moore dry kiln, complete with trucks, sidewise piling, three tracks.

Engine (Hoisting).—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—One used 25 H. P., D. D. D. C. hoisting engine.

Engine (Gas).—M. L. Crews, Sebring, Fla.,—Prices on gas engines.

Engines.—A. H. Reed, Mgr., Big Four Fluorspar & Ore Co., Marion, Ky.—Prices on 75 to 100 H. P. Fairbanks-Morse type engines.

Electric Lights.—G. Scheitlin, Supt. of City Schools, Knoxville, Tenn.—Bids until Dec. 23 for installation of electric lights in the Bell House school.

Electrical Supplies.—Daytona Beach Amuse-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

ment Co., Inc., Daytona Beach, Fla.—Prices on electrical supplies of all types.

**Electrical Work.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Elevator (Electric, Freight).**—Treasury Department, Supv. Archt.'s Office, Washington, D. C.—Bids until Jan. 4 to install complete one full magnet control electric freight elevator for U. S. Post Office, Richmond, Va.

**Engines.**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 125 to 400 H.P. modern type, slightly used Corliss engines.

**Engines.**—Rowland Lumber Co., E. L. Sutton, Supt., New Bern, N. C.—Prices on Corliss engine.

**Engine (Oil).**—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase 50 H. P. Fairbanks-Morse type Y oil engine.

**Engine.**—Acme Sand Co., Eustis, Fla.—To purchase 50 or 60 H. P. Deisel type oil engine, used equipment; prefer vertical type and two cylinders of modern design, or two cylinder horizontal engine.

**Engine.**—Howell Lumber Co., Inc., Sumter, S. C.—To purchase 20 H. P. center crank engine.

**Engines (Power and Pump).**—Daytona Beach Amusement Co., Inc., Daytona Beach, Fla.—Prices on power and pump engines.

**Engines and Motors.**—V. G. Arnette, Prest., V. G. Arnette & Co., Cades, S. C.—Data and prices on power equipment to run small woodworking plant.

**Fill (Hydraulic).**—State Highway Comsn., E. L. Stephens, Chrmn., Brunswick, Ga.—Bids until Dec. 1 on modified specifications for 128,000 cu. yds. hydraulic fill between St. Simmons Island and mainland.

**Filter House, etc.**—City of Albermarle, N. C., O. K. Sikes, Mayor—Bids until Jan. 11 for following water works improvements; brick and concrete addition to filter house; concrete filter tubs; concrete coagulation basin; brick and concrete chemical house; filter plant equipment; plans with Gilbert C. White Co., Engr., Durham, N. C.

**Filter (Toilet Goods).**—See Laboratory Equipment.

**Garage, etc.**—City of Charleston, S. C., J. H. Dingle, City Engr.—Bids until Dec. 19 to construct brick garage, brick workshop and store room at 134 Line St.

**Gas Fixtures.**—G. C. Armor, Box 187, Corydon, Ind.—To correspond with mfrs. of gas fixtures.

**Generators.**—Wood & Lane Co. (Mchy. Dealers) St. Louis, Mo.—To purchase second-hand generators; state price, f. o. b. cars loading point.

**Glass (Window).**—Rev. R. E. Hough, pastor, Central Presbyterian Church, Jackson, Miss.—Glass for windows of \$50,000 church.

**Granite.**—A. M. Lundberg, 5564A Page Ave. St. Louis, Mo. See Building Material.

**Hardware, etc.**—Daytona Beach Amusement Co., Inc., Daytona Beach, Fla.—Prices on hardware including all plumbing materials.

**Heating Plant.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Heating Plant.**—Rev. R. E. Hough, pastor, Central Presbyterian Church, Jackson, Miss.—Heating plant for \$50,000 church.

**Hoist (Electric).**—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—A. C. electric hoist, 220 or 440 volt, double drum with boom swinger.

**Hoist (Steam).**—Winchester Coal Co., N.

M. White, Jr., Prest., Prestonburg, Ky.—To purchase second-hand steam hoist.

**Hosiery Mill Machinery.**—The Secy., Mr. Pleasant Commercial Club, Mt. Pleasant, Tenn.—Data and prices on mchy. for hosiery mill.

**Ice Plant.**—C. K. Cranfield, Box 421, Gadsden, Ala.—Bids opened Dec. 20 for 10-ton ice plant for creamery and ice cream plant.

**Interior Finish.**—W. S. Mayes, Chrm., Bldg. Comm., First Presbyterian Church, Covington, Tenn.—Red Gum for interior finish of auditorium and vestibules and yellow pine for Sunday school of \$50,000 church.

**Jack (Pump).**—M. L. Crews, Sebring, Fla. Prices on pump jacks.

**Laboratory Equipment.**—Oriental Laboratories, Inc., 236 S. Main St., Memphis, Tenn.—To purchase one filling machine for cold cream; filling machine and filter for toilet goods; one steam jacket for mfr. of peroxide cream; cold cream mixer and talcum machine.

**Lathe (Axe Handle).**—M. G. DeHart, Woolwine, Va.—To purchase second-hand axe handle lathe.

**Lathes.**—See Machine Shop Equipment.

**Lathes.**—See Machine Shop Equipment.

**Laundry Machinery.**—Treasury Dept., Supervising Archt.'s Office, Washington, D. C.—Bids until Dec. 28 to furnish and install laundry mchy. at U. S. V. H., Bronx, N. Y.

**Limestone.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Locomotives.**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St. Richmond, Va.—Two 10-ton, 36-in. gauge locomotives.

**Locomotive.**—George M. Norwood Brick Co., Raleigh, N. C.—Prices on one 8 to 12-ton locomotive, must be small and compact to pass through culvert with 10-ft. head room from rails; delivery Selma, N. C.

**Lumber.**—Daytona Beach Amusement Co., Inc., Daytona Beach, Fla.—Prices on lumber of all kinds in large quantities.

**Lumber (Gum or Yellow Poplar).**—Smith Novotoy Electric, Inc., 4 S. Church St., Charlotte, N. C.—To purchase 3/4-in. wood of good gum or yellow poplar, 5 to 8-in. wide, suitable for making into small cabinets.

**Machine Shop Equipment.**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase machine shop equipment including: 14-in. x 12-ft. lathe; one 26-in. x 14-ft. and 24-in. x 14-ft. quick change lathe; one 84-in. and one 60-in. boring mill; plain turning lathe, 34-in. x 14-ft. bed; one 20-in. upright drill.

**Machine Shop Equipment.**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on machine shop equipment including: 18-in. selective head lathe, length of bed about 14-ft., swing over shears 20 1/4-in., swing over carriage 12 1/2-in.; one 16-in. and one 12-in. clutch complete with dies, tools, etc.; 4 ft. heavy duty radial drill press with gear for drive and plain box table; 25-in. sliding head upright drill press; 16-in. double emery grinder with guards; combination pipe and bolt cutting machine with drill for 1/2 to 1 1/2-in. 24-in. heavy duty crank shaper.

**Metal Sign Catalogues, etc.**—The Ly-Nola Co., W. J. Lyons, Prest., Box 995, Dallas, Tex.—Catalogs of metal and indoor signs and novelties.

**Millwork.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Mining and Milling Machinery.**—A. H. Reed, Mgr., Big Four Fluorspar & Ore Co., Marion, Ky.—Prices on steel head frames; structural steel sectional buildings; Symons disc crushers; 18 to 24-in.; Symons pulsat-

ing screens; ore feeders; Plat-o tables; will consider second hand equipment.

**Miscellaneous Supplies.**—Forrest County, Comms., Hattiesburg, Miss.—Herbert Gilla, Clerk.—Bids until Jan. 4 for following supplies used in county office; blank and other record books; printed blanks and stationery; ruled and printed blanks, tax receipts, warrant books and other forms of simple binding, etc.

**Miscellaneous Supplies.**—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Dec. 22 to furnish batteries; carburetors; leather packings; tires and tubes; litherage; paints; varnishes; colors; enamel; linseed oil; putty; glue; rod cup grease; memorandum books, etc.; blank forms and information (Circular 2306) on application to offices of Panama Canal; Asst. Purchasing Agents at Fort Mason, San Francisco, Cal.

**Mixer (Fertilizer).**—Lakeside Greenhouses, Raymond J. James, Propr., Yalaha, Lake County, Fla.—To correspond with mfrs. of small fertilizer mixer, 1-ton capacity.

**Motor.**—M. K. Frank, Frick Bldg., Pittsburg, Pa.—25 H. P., A. C. motor together with starting box, etc.

**Motor.**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 2 H.P., 3 phase, 60 cycle, 550 volt, 1200 R.P.M. motor with 12-in. pulley.

**Motorcycles, etc.**—City Comsn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids until Dec. 28 to furnish and deliver 4 motorcycles and also automobile or roadster type for Police Dept., A. J. Roberts, Chief of Police.

**Motor (Electric).**—Pennsylvania Equipment Co., (Mchy. Dealers) Norwood Station, Pa.—To purchase two second-hand, 125 H. P., 60 cycle, 550 volt belted type motor, similar to G. E. Co.'s form K, complete with starting and protective apparatus; for New York State delivery.

**Oil (Fuel).**—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Jan. 9 to furnish fuel oil for the period Jan. 1, 1923 to Dec. 12, 1923; blank forms and information (Circular 1505) on application.

**Oil, etc.**—U. S. Engrs. Office, Custom House, New Orleans, La.—Bids until Jan. 2 for 6 to 12 months' supply of fuel oil, cup grease, gasoline and other lubricants.

**Ornamental Iron.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Paint, etc.**—See Building Materials, etc.

**Paving.**—City Comms., D. B. Robertson, Prest., Tuscaloosa, Ala.—Bids opened Dec. 19 to lay 4000 sq. yds. Portland cement concrete pavement; plans, etc., from W. H. Nicol, City Engr.

**Painting, etc.**—Treasury Dept., Supv. Archt.'s Office, Washington, D. C.—Bids until Jan. 11 for painting, plastering at U. S. post office, Portland, Ore.

**Painting.**—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until Jan. 5 for interior painting, finishing, etc., of buildings, as listed, for United States Veterans' Hospital, Perryville, Md.; specifications from office Supervising Architect.

**Paving.**—T. V. Stephens, City Mgr., Excelsior Springs, Mo.—Bids until Jan. 22 to pave Leavenworth St.; brick on concrete base; asphalt filler. (Lately noted.)

**Paving.**—City, Board of Public Service, St. Louis, Mo.—Bids until Jan. 2 to build Chouteau Ave. from Broadway to Jefferson Ave.; plans, etc., on file.

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**Paving.**—City Comms., D. B. Robertson, Prest., Tuscaloosa, Ala.—Bids until Jan. 2 for 11,627 sq. yds. concrete sidewalk and 25,625 lin. ft. combined curb and gutter; plans, etc., from W. H. Nicol, City Engr.

**Paving and Sewer Construction.**—O. F. Holcombe, Mayor, Houston, Tex. — Bids opened Dec. 18 to pave following: Washington Ave. from 5th St. to Houston Ave.; lay gravel paving on Campbell, Lee, Brackenridge, Sumter; new roadways in Herman Park; bituminous topping for present roadways. Construct sanitary sewers on Alabama Ave., in Electric Park addition, on Lubbock, Qultman, Davis, Providence, Burnett, Maffit, Nance, Everett, etc., plans, etc., from J. C. McVea, City Engr.

**Pegs (Wooden, Clothes).**—The Korn Co., Sumter, S. C.—Data on mfne. of wooden clothes pegs, a type made of two pieces of wood held together by spiral spring.

**Pile Driving.**—Port Comms., Port of New Orleans, La.—Bids until Dec. 28 for driving six pile clusters and bracing near lower end of the Johnson Iron Works, Algiers side of the river; plans with Supvr. of Purchases, 1 Canal street.

**Pipe.**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—One carload of 6-in. diam. pipe.

**Pipe (Iron).**—Marion County Comms., T. D. Lancaster, Jr., Clk., Ocala, Fla.—Bids until Dec. 22 to furnish approx. 10,000 ft. of 2-in. black iron pipe.

**Pipe Machine, etc.**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 4 to 12-in. or 2 to 10-in. pipe machine with regular equipment and extra set of dies and upper holder.

**Piping.**—M. L. Crews, Sebring, Fla. — Prices on piping.

**Plastering.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Plumbing.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Plumbing Materials.**—See Hardware, etc.

**Post Office Equipment.**—S. S. Hunsinger, Chimney Rock, N. C.—Fourth class post office equipment.

**Posts (Ornamental Iron Lamp).**—Board of Awards, Richard Gwinn, City Register, Baltimore, Md.—Bids until Jan. 3 for ornamental iron lamp posts; spec. with John J. Hanson, Supt. of Lamps and Lighting, Room 209, City Hall.

**Pumps.**—Crescent Gas & Oil Co., J. Tracy, Walker, Bluefield, W. Va.—Prices on pumps.

**Pump (Road Contractors).**—Marion County Comms., T. D. Lancaster, Jr., Clk., Ocala, Fla.—Bids until Dec. 22 to furnish steam or gas operated road contractor's pump.

**Punch and Shear.**—Raleigh Iron Works Co. (Mchy. Dealers) Raleigh, N. C.—Universal armor plate type punch and shear to handle following work: Shear beams up to 10-in., channels up to 9-in., angles up to 6-in., round bars up to 2½-in., and square bars up to 2½-in., also that will punch beams in both flanges and webb up to 18-in. and with approx. 24-in. throat; will consider second-hand equipment.

**Punch (Fly Wheel).**—Allen Picking Bag Co., Orlando, Fla.—New or used small fly wheel punch, operated by 1 H. P. electric motor, to punch 3/16-in. hole in ½-in. soft iron.

**Rails (Relay).**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—3 mi. of 35-lb. relay rails for North Carolina delivery.

**Rails (Relaying).**—George M. Norwood Brick Co., Raleigh, N. C.—Prices on 30 tons

of 30-lb. relaying rails; delivery Selma, N. C.

**Rails (Relaying).**—Eppinger & Russell Co., Jacksonville, Fla.—30, 35 or 40 lb. relaying rails, sufficient to lay 10 mi.; state price, condition, etc.; delivery f.o.b. cars Olustee, Fla., S.A.L. Railway.

**Radiators (Hot Water).**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase 10 hot water radiators.

**Rails (Relaying).**—High Point Machine Works, Inc. (Mchy. Dealers) High Point, Va.—To purchase 30 to 35 lb. relaying rails.

**Reservoir Dam.**—Bluefield Water Works & Improvement Co., Wm. McCarthy, Supt., 601 Princeton Ave., Bluefield, W. Va.—Bids until Jan. 5 for construction of clay or earthen dam, containing about 4000 cu. yds of material to be sluiced into place.

**Retorts (Nitric Acid).**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 6000 lbs. capacity nitric acid retorts.

**Rice Milling Machinery.**—Teche Rice Milling Co., H. N. Sherburne, Prest., New Iberia, La.—Will probably be in market for rice milling mchy.

**Road Construction.**—Sumter County Comms., Bushnell, Fla.—Bids until Dec. 30 to build 109,000 sq. yds. road; lime rock base; asphalt slag top; \$135,000; E. V. Camp, Engr., More and De Kalb Aves., Atlanta, Ga. (Lately noted bids until Dec. 12.)

**Road Construction.**—Escambia County Comms., Jas. Macgibbon, Clk., Pensacola, Fla.—Bids until Dec. 30 to pave Pensacola-Gull-Point road, from eastern end of Bayou Texar Bridge; 2494 sq. yds. reinforced cement concrete paving; 222 lin. ft. plain concrete curbing; 2 catch basins, etc.; plans, etc., on file.

**Road Construction.**—De Kalb County Clk., Maysville, Mo.—Bids until Dec. 26 to grade, construct culverts and bridge on 1½ mi. road west from Maysville; S. H. Project No. 20,203.

**Road Construction.**—Pointe Coupee Parish, Supvg. Board, Road Dist. No. 7, J. C. Cole, Chrmn., New Roads, La.—Bids until Jan. 2 to grade and construct drainage structures on 4.962 mi. road; plans, etc., on file.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 22 to grade and lay concrete and gravel paving, together with bridges and culverts on 3 state projects, Nos. 209,212 and 221; about 50 mi. roads extending from Kennett and Holcomb.

**Road Construction.**—Callaway County, T. H. Halley, Clerk, Fulton, Mo.—Bids until Dec. 26 to grade, ridge and hard surface 3 sections State road in County; State Projects Nos. 97,144 and 20,277.

**Road Construction.**—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, La.—Bids until Dec. 28 to grade, drain, construct concrete culverts and gravel surface following:

Sec. A—9.91 mi. Tallulah-Delhi Highway; Madison Parish, Federal Aid Proj. 117; Sec. B—8.17 mi. Tallulah-Delhi Highway; Madison Parish, Federal Aid Proj. 117; J. M. Fourmy, State Highway Engr.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids opened Dec. 18 for 7.723 mi. State road from Dexter southward; Stoddard County, Federal Aid Proj. No. 211 A; Frank B. Newton, Div. Engr., Sikeston.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 22 for 3.386 mi. State road from Potosi westward; Washington County, Federal Aid Proj. No.

160 A; S. M. Rudder, Div. Engr., Bristo. Bldg., Webster Groves., Mo.

**Road Construction.**—Cass County Clerk, Harrisonville, Mo.—Bids until Dec. 26 to improve State Road Proj. No. 20,174.

**Road Construction.**—State Highway Comsn., H. G. Shirley, Chrmn., Richmond, Va.—Bids until Jan. 3 to grade and drain following projects:

F-72-E, Route 13—4.09 mi. road from St. Paul's Church toward Manquin.

F-171, Route 13—8.18 mi. road from St. Paul's Church to Brays Fork, King and Queen, and Essex Counties.

F-197, Route 10—3.13 mi. road between Huffs and Old Glade, Washington County; bituminous macadam; plans, etc., on file or from Dist. Engrs., as follows: Project F-72-E, and F-171 Fredericksburg, Va.; F-197, Bristol, Va.

**Road Construction.**—Red River County, R. J. Williams, County Judge, Clarksville, Tex.—Bids until Dec. 21 for following:

2.51 mi. State Highway No. 6, Clarksville-Annona road; 3931 cu. yds. gravel surfacing; 2194 lbs. reinforcing steel.

Avery-English road section of State Highway No. 5; 15,112 cu. yds. gravel; to be furnished by County; 33,140 lbs. reinforcing steel; J. B. Rieman, County Engr.

**Road Construction.**—St. Charles County Court, St. Charles, Mo.—Bids until Jan. 5 to gravel 6 mi. Alton road, north of St. Charles; \$49,000.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 28 to grade and construct bridges on road from Springfield southward; Proj. 162; plans, etc., from County Clk., and Div. Engr., H. P. Mobberly, Jefferson City.

**Road and Bridge Construction.**—North Arkansas Highway Imp. Dist. No. 2, of Independence, Izard and Fulton Counties, Little Rock, Ark.—Bids until Dec. 21 for 77 mi. gravel road, including Sections A, B, C, D; for 39 bridges from 30 to 200-ft. long; 682,522 lbs. truss bridges; 352,920 lbs. I-Beam; also improve South Fork Bridge; plans, etc., from E. C. Parsons, Chrmn., Batesville, J. W. Carroll, Secy., Salem, E. E. Mashburn, Engr., Cotton Plant, or from State Highway Comsn., Little Rock.

**Roofing and Sheet Metal.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Safety (Railway) Track Appliances.**—Sidney V. Coxeter, Lloyd, Fla., R. R. No. 1.—To correspond with mfrs. of wood and metal wedges used for filling in space between rails and frogs and guard-rails; or any railway safety track appliances that apply to switches, frogs, etc.; descriptive catalogs, etc.

**Saw Mill Machinery.**—Rowland Lumber Co., E. L. Sutton, Supt., New Bern, N. C.—Prices on saw mill mchy.

**Saw Mill Outfit.**—V. G. Arnette, Prest., V. G. Arnette & Co., Cades, S. C.—To correspond with mfrs. of or dealers in small saw mill outfit.

**Saw Table.**—Smith Novotoy Electric, Inc., 4 S. Church St., Charlotte, N. C.—To purchase light duty saw table high speed with table wide enough to saw thin panels 12 to 20-in. wide and saw true smooth edges.

**Screens (Ore).**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase three ore screens.

**Screens (Window).**—F. M. Dillon, Box 414, Raleigh, N. C.—To correspond with mfrs. of window screens; with view to representation.

**Sewer and Water Lines and Paving.**—City of Albemarle, N. C. O. J. Sikes, Mayor.—Bids until Jan. 10 for sewer and water lines

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and paving to consist of the following work: 50,000 to 70,000 sq. yds. of asphalt or other pavement; 28,000 lin. ft. of curb and gutter; 2500 lin. ft. of granite curb; 800 sq. yd. of concrete gutter; 26,000 cu. yds. of grading; 3500 ft. storm water drains; 17,700 lin. ft. of 6 and 8-in case iron water mains; 16,000 lin. ft. of 8-in. terra cotta sewer laterals; plans with Gilbert C. White, Engrs., Durham, N. C.

**Sewer and Water Improvements.**—City of Corinth, Miss., M. T. Sharp, Clk.—Bids until Dec. 21 for furnishing materials, labor and constructing complete improvements to sewer and water system, sewer improvements to cost about \$40,000, water improvements to cost about \$35,000; plans with Fuller & Beard, Conslt. Engrs., Room 618 Title Guaranty Bldg., St. Louis.

**Sewer Construction.**—Board of Public Works, Nashville, Tenn.—Bids until Dec. 15 for constructing clay pipe sewer in Alley No. 659, between Ackler Ave. and Grove St.

**Sewers (Storm, Water and Sanitary.)**—City Commn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids until Jan. 11 to furnish materials and construct flowing storm water and sanitary sewers: Lydia, James to Cherry; Cherry, Lydia to Park; Park, Cherry 300 Ft. W.; James, Lydia to Post and lateral in alleys adjacent; laying 3000 ft. of 8-in. T. C. sanitary sewers on concrete base, 5000 ft. of 4-in. T. C. sanitary sewer on 2x6-in board, 3300 ft. sub-drain, 30 manholes, and 1 drop manhole or alternate bids on 3300 ft. of 8-in. and 6000 ft. of 6-in concrete sanitary sewers. Davis St., S. A. L. Ry., to G. S. & F. Ry.: 500 ft. of 24-in. reinforced concrete storm sewer in ditch.

Springfield Blvd., Long Branch to 26th St., Springfield Blvd. to Preston St.; 72-ft. of 48-in, 670 ft. of 36-in, 1185 ft. of 30-in. reinforced concrete storm sewers, 2575 ft. sub-drains and 3 manholes.

Myrtle Ave. Enterprise St. to State St.; 800 ft. of 36-in. and 300 ft. of 21-in. reinforced concrete storm sewers, 1100 ft. of sub-drains, 1075-ft. of cast iron pipe on saddle pile and 3 manholes.

Outfall to Clay St. sewer at St. Johns River; 400 ft. of 24-in. C. I. sanitary sewers and 1 manhole; plans, etc., W. E. Shedden, City Engr.

**Shovel (Steam).**—R. P. Johnson (Mchy. Dealers) Wytheville, Va.—Dealers prices on ¾ yd. steam shovel, caterpillar tread.

**Shovel (Steam Stripping).**—A. S. Preston, Jasper, Ala.—To purchase steam stripping shovel, 2½ yds. capacity mounted on caterpillars similar to Bucyrus 150B; prefer second-hand equipment; state condition, etc.

**Soldering Fluid (Non-fuming).**—The Korn Co., Sumter, S. C.—To correspond with mfrs. of a non-fuming soldering fluid.

**Steam Jacket.**—See Laboratory Equipment.

**Steel Frame.**—Sullivan-Markley Hardware Co., T. E. Eskew, Mgr., Greenville, S. C.—Steel frame for galvanized iron 1-story warehouse; 30x60 ft.

**Steel (Structural and Sheet).**—Daytona Amusement Co., Inc., Daytona, Fla.—Prices on structural and sheet steel.

**Storm Water and Sanitary Sewer Construction.**—City Commn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids until Jan. 4 for construction of certain storm water and sanitary sewers, using following materials: 3500 ft. of 8-in. and 5000 ft. of 6-in. T. C. or concrete pipe; 1308 ft. of C. I. pipe, class A, 50 sewer manholes, flange and gutters; delivery f. o. b. Jacksonville; plans with City Engr., Engineer Bldg., corner Main and Orange Sts.

**Strips (Weather).**—See Ventilators (Window), etc.

**Structural Iron.**—A. M. Lundberg, 5564A Page Ave., St. Louis, Mo. See Building Material.

**Talcum Powder Machine.**—See Laboratory Equipment.

**Tank (Fuel Oil).**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase 10,000 to 12,000 gal. fuel oil tank.

**Tanks (Storage).**—Crescent Gas & Oil Co., J. Tracy Walker, Bluefield, Va.—Prices on storage tanks.

**Tanks (Service).**—Crescent Gas & Oil Co., J. Tracy Walker, Bluefield, Va.—Prices on service tanks.

**Tank (Water).**—M. L. Crews, Sebring, Fla. Prices on water tank.

**Tanks (Septic).**—Daytona Beach Amusement Co., Inc., Daytona Beach, Fla.—Prices on septic tanks.

**Terne Plates.**—The Korn Co., Sumter, S. C.—To correspond with mfrs. of terne plates.

**Textile Equipment.**—Burnett Knitting Mills, Inc., French Broad, Tenn.—To purchase finishing, dyeing and other equipment to mfrs. 500 doz. pairs hose daily.

**Towing.**—Bd. of Awards, Richard Gwinn, City Register, Baltimore, Md.—Bids until Dec. 27 for towing garbage and ash scows; spec. obtainable from Adolph P. Schuch, Commr. of Street Cleaning, City Hall Annex No. 2, Guilford Ave.

**Tractors and Implements.**—M. L. Crews, Sebring, Fla.—Prices on tractors and implements.

**Trimmer (Board).**—Howell Lumber Co., Inc., Sumter, S. C.—To purchase 20-ft. one-man two-saw tower board trimmer.

**Trucks (Hand).**—J. G. Wells, Tenth and Wilmer Sts., Anniston, Ala.—Prices on hand trucks, suitable for use in creamery.

**Trucks (Automobile).**—Marion County Commrs., T. D. Lancaster, Jr., Clk., Ocala, Fla.—Bids until Dec. 22 to furnish five or six ½ or 2½-ton trucks, equipped with pneumatic tires and hydraulic dump, steel bodies.

**Turbines.**—Wood & Lane Co. (Mchy. Dealers) St. Louis, Mo.—To purchase second-hand turbines, state price, f. o. b. cars loading point.

**Underground Connections.**—Board of Public Works, Nashville, Tenn.—Bids until Dec. 13 for installing new water service pipes, new sewer service pipes and for sewer and water service pipe repairs on portions of Evander, Russell, South Nineteenth St. and Ashworth Ave.

**Valves and Fittings.**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on one 12-in. B. & S. gate valve; one 12-in. base ell; three 6-in. I. B. B. M. bell-end gate valves and three 8-in. I. B. B. M. bell-end gate valves.

**Valves (Gate).**—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—Dealers prices on 3-in. Chapman gate valves, rising stem, iron body, list 42½.

**Ventilators (Window), etc.**—F. M. Dillon, Box 414, Raleigh, N. C.—To correspond with mfrs. of window ventilators, weather strips and window screens; with view to representation.

**Water System.**—S. S. Hunsinger, Chimney Rock, N. C.—Fresh water system.

**Wire (Fence).**—M. L. Crews, Sebring, Fla. Prices on fence wire.

**Wharf Head House.**—Dist. Commrs., Room 509 Dist. Bldg., Washington, D. C.—Bids opened Dec. 18 for constructing head house on Wharf No. 6; for information apply to Room 427, Dist. Bldg.

**Woodworking Machinery.**—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase four side planer and matcher; rip saw; and trimmer.

**Woodworking Plant Equipment.**—V. G. Arnette, Prest., V. G. Arnette & Co., Cades, S. C.—To correspond with mfrs. of or dealers in equipment for woodworking plant, to mfrs. vegetable crates, shingles, laths, etc.

## Financial News

### New Financial Corporations.

Ga., Hartwell—The First National Bank and the Farmers & Merchants Bank consolidated as the First National Bank, capital \$75,000.

Ga., Montezuma—The Georgia State Bank of Atlanta, capital \$500,000, acquired the Bank of Montezuma, George M. Chastain, Vice-Prest.

Ky., Louisville—Ashland (Ky.) Night and Day Bank will consolidate with the National Bank of Ashland, capital \$100,000.

La., Monroe—Dupre-Cole Watkins Insurance Co., capital \$12,000, inceptd. with C. C. Dupre, Prest.; J. H. Watkins, Secy.

Mo., St. Louis—Forest Investment Co., organized with J. W. Himmeger, August Folle, T. J. Sheridan, stockholders.

Mo., St. Louis—Robert Investment Co., organized with Stella R. O'Reilly, H. J. Meury, H. F. Riege.

Okla., Miami—First State Bank merged with the Security Bank, G. O. Shepherd, Prest.

Okla., Tulsa—Syndicate Trust Co., organized by Morris W. Stanton, F. V. Westhafer, Shell S. Bassett.

Tenn., Decherd—The Citizens Bank & Trust Co. merged with the First National Bank of Decherd County.

Tenn., Knoxville — The Knoxville Trust Co. and the American Trust Co. merged as the Knoxville Trust Co., will increase capital to \$500,000.

Tenn., Nashville — The Fourth and First Joint Stock Land Bank of Nashville, capital \$250,000; inceptd. with James E. Caldwell, Prest.; T. D. Webb, J. S. McHenry, and Randall Curell, Vice-Prests.

Tenn., Rockwood—The Rockwood Bank & Trust Co. merged with the Rockwood National Bank.

Tex., Alpine—Alpine Bank will merge with the State National Bank.

Tex., Dallas—Finnegan-Cammack Investment Co., capital \$75,000, inceptd. by T. P. Finnegan, G. D. Cammack, F. M. Finnegan.

Tex., Ranger—Southern Loan Co. of Ranger, capital \$100,000, inceptd. by E. A. Watson, E. D. Warren.

### New Securities.

Ala., Brewton—Refunding—Escambia County sold \$75,000 bonds to Ward, Stern & Co. Montgomery. Address County Commrs.

Ala., Mobile—School—County and City will vote Jan. 23 on \$700,000 bonds. Address The Mayor.

Ark., Dewitt—Dewitt Special School Dist.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

No. 1 sold \$14,000 bonds at par to Elkin & Co., of Little Rock.

Ark., Ft. Smith—Water—Bd. of Improvement of Ft. Smith Water Works Dist., Fagan Bourland, Chrmn. will open bids Dec. 14 for \$1,329,000 bonds.

Fla., Bradenton—Road—Manatee County Comms., Myakka Section, will vote Jan. 9, on \$150,000, 6% bonds.

Fla., Clearwater—Park Improvement—City, J. R. Thomas, Clk., will receive bids until Dec. 22 for \$25,000, 6% bonds.

Fla., DeLand—Municipal—City voted \$314,000 bonds. Address The Mayor.

Fla., Key West—School—Monroe County Special Tax School Dist. No. 1 sold \$75,000, 6% bonds to Kaufman-Smith-Emert & Co., St. Louis. Address Dist. Trustees.

Fla., Tampa—Waterworks—City will vote Feb. 20 on \$2,600,000 bond issue. Address The Mayor.

Fla., Tavares—Road, Bridge—Lake County Road Dist. No. 1, voted \$750,000 bonds. (Lately noted.)

Fla., West Palm Beach—Channel—Lake Worth Inlet Dist. voted \$275,000 bonds. Address Dist. Comms.

Ga., Brunswick—Road—Glynn County sold \$250,000 bonds. Address County Comms.

Ga., Cave Springs—School—Cave Springs Consolidated School Dist. voted \$10,000 bonds. Address School Trustees.

La., Abbeville—Road—Vermilion Parish Police Jury will receive bids until Jan. 6 for \$500,000, 6% bonds.

La., Abbeville—Road—Vermilion Parish Police Jury receives bids until Jan. 15 for \$500,000 bonds of Road Dist. No. 2, Rom. P. LeBlanc, Secy.

La., Abbeville—School—Vermilion Parish, Milton School Dist. No. 1 will receive bids until Jan. 11 for \$4200 bonds. Address School Board.

La., Bastrop—School—Bonita School Dist. Morehouse Parish sold \$5000, 5% bonds to Johnson Interstate Trust & Banking Co. at par. Address Dist. School Trustees.

La., Bastrop—School—Johnson School Dist. Morehouse Parish, sold \$18,000, 6% bonds to Johnson Interstate Trust & Banking Co., Bonita. Address Dist. School Trustees.

La., De Quincey—Water, Light and Power Plant—W. L. Slayton & Co., Toledo, purchased \$120,000, 6% bonds from Calcasieu Parish. Address Police Jury.

La., Lenoir—Street—City sold \$225,000, 5½% bonds to A. T. Bell & Co., Toledo. Address The Mayor.

La., Mansfield—School—Wallace School Dist. sold \$70,000, 6% bonds to the Hibernia Securities Co., Inc., New Orleans. Address School Trustees. (Lately noted.)

La., Oakdale—Sewer—Board of Comms., S. M. Scott, Prest., receives bids until Jan. 2 for \$35,000 bonds.

La., Springville—Road—Livingstone Parish Road Dist. No. 3 will receive bids until Jan. 2 for \$30,000, 6%, \$1000 denom. bonds. Address Parish Police Jury.

Md., Bel Air—School—Harford County Comms. will receive bids for \$100,000 bonds.

Md., Cumberland—Water—City sold \$250,000, 4½% bonds to Alex. Brown & Stone. Address The Mayor.

Md., Easton—Gas Plant—City voted \$17,000 bonds. Address The Mayor. (Lately noted.)

Miss., Drew—Water-Works—City sold \$25,000, 6% bonds to A. K. Tigrett & Co., Memphis. Address The Mayor.

Miss., Magee—Electric—Board of Aldermen sold \$10,000 bonds. Address The Mayor.

Miss., Picayune—School—City voted \$75,000, 6% bonds. Address The Mayor.

Miss., Winona—School and Road—Bd. of Supvrs. sold \$25,000 bonds at premium.

Mo., Caruthersville—County House—County Comms. will receive bids for \$150,000 bonds in January.

Mo., Clayton—Road—St. Louis County sold \$1,000,000, 4½% bonds to Kaufman-Smith-Emert & Co., Inc., and First National Co., both of St. Louis, and the Harris Trust & Savings Bank of Chicago. Address County Comms.

Mo., Excelsior Springs—Bridge and Park—City sold \$14,000, 5% bonds to Guaranty Trust Co., Kansas City. Address The Mayor.

Mo., Harrisonville—Sewer—City will vote Jan. 9 on \$60,000 bonds. Address The Mayor.

Mo., Liberty—School—City votes on \$150,000 bonds. Address The Mayor.

Mo., Sedalia—School—City voted \$500,000 bonds. Address The Mayor.

Mo., Springfield—Municipal Building—City contemplates voting on bonds. Address The Mayor.

N. C., Burlington—School—City will vote Jan. 9 on \$150,000 bond issue. Address The Mayor.

N. C., Concord—Street—Board of Aldermen sold \$350,000, 5¼% bonds to Caldwell & Co., Nashville.

N. C., Danbury—School—Walnut Cove Special Tax Dist., will vote on \$15,000 bonds. Address Bd. of Education.

N. C., Ellerbe—Light—Town, Prince O'Brien, Town Clk. will receive bids until Dec. 19 for \$15,000, 6% bonds.

N. C., Forest City—School—City voted \$50,000 bonds. Address The Mayor. (Lately noted.)

N. C., Kings Mountain—Water and Sewer—City, Geo. E. Lovell, Secy., sold \$68,000, 6%, bonds to Spitzer, Rorick & Co., Toledo, Ohio, at par and accrued interest.

Okla., Chickasha—School—Bd. of Education contemplates voting on \$175,000 bond issue.

Okla., Skiatook—Sewers—City sold \$26,000 bonds. Address Mayor Maxwell.

S. C., Chester—School—City voted \$150,000 bonds. Address The Mayor.

S. C., Florence—Water, Sewer and Drainage—City sold \$350,000 bonds. Address The Mayor.

S. C., Ft. Mill—Municipal—City will receive bids until Dec. 20 for \$73,000 bonds. Address W. B. Meacham, Secy.

S. C., Union—Paving—Emslie Nicholson, Chrmn., Paving Comsn., voted \$150,000 bonds. (Lately noted.)

Tenn., Camden—Highway—Benton County, N. J. Cuff, Clk. will receive bids until Jan. 2 for \$50,000, 5%, \$1000 denom. bonds.

Tenn., Memphis—Municipal—City will receive bids until Jan. 9 for \$1,100,000 bonds. Address The Mayor.

Tex., Austin—School—City sold \$32,000 bonds to T. S. Bowman & Co., Austin, at par and accrued interest. Address The Mayor.

Tex., Austin—School—Palacios Independent School Dist. will issue \$10,000, 6% bonds. Address School Dist. Trustees.

Tex., Canyon—School—Canyon City Independent School Dist. sold \$100,000, 5½% bonds to Breg, Garrett & Co., Dallas, Tex., at par and accrued interest. Address Dist. School Trustees.

Tex., Corpus Christi—Water and Sea Walls—City, P. G. Lovenskold, Mayor, will receive bids until Jan. 3 for \$2,500,000, 5% bonds.

Tex., Greenville—Street—City, J. O. Willman, Clk., will receive bids until Jan. 9 for \$125,000, 5% bonds.

Tex., Highland Park—Water, Street and Park—City, H. R. Davis, Mayor, will vote Jan. 16 on \$250,000 bonds. (Lately noted.)

Tex., Houston—Drainage—Harris County Comms., will issue \$75,000 bonds for Drainage Dist. No. 1.

Tex., Houston—Drainage—Harris County Drainage Dist. No. 12 sold \$450,000 bonds. Address County Comms.

Tex., Iowa Park—Sewer—City sold \$5000, 6% bonds to Breg, Garrett & Co., Dallas. Address The Mayor.

Tex., Mission—Refunding—City voted \$45,000 bonds. Address The Mayor.

Tex., Moulton—School—Moulton Independent School Dist. voted \$12,000 bonds. Address School Dist. Trustees.

Tex., Rockdale—Municipal—County sold \$35,000 Gause Road Dist. bonds. Address County Comms.

Tex., Rosenberg—Sewer—City Comsn. will vote Jan. 10 on \$70,000 bond issue.

Tex., Rotan—Water Works—City, voted \$50,000 bonds. Address The Mayor. (Lately noted.)

Tex., Sweetwater—School—Sweetwater Independent School Dist. voted \$80,000, 5½% bonds. Address Dist. School Trustees.

Tex., Walnut Springs—School—Walnut Springs Independent School Dist. will issue \$3000, 5% bonds. Address Dist. Trustees.

Va., Covington—Water—The Rosenstille-Ellis Co., Cincinnati, Ohio, purchased \$136,000, 5% bonds at par and accrued interest. Address The Mayor.

Va., Ft. Myer Heights—Roads—Arlington County Good Roads Assn. requested election on \$573,000 bonds. Address County Comms.

Va., Norfolk—Road and Bridge—Norfolk County Comms., G. Taylor Gwathmey, Clk., will receive bids until Jan. 9 for \$135,000, 5%, \$1000 denom. bonds.

Va., Portsmouth—Road and Bridge—Board of Supvrs., Norfolk County will receive bids until Jan. 9 for \$135,000, 5% bonds.

Va., Richmond—Road—Henrico County, Fairfield Magisterial Dist. sold \$145,000, 5% bonds to the American National Bank and Wheat, Williams & Co., Inc. Address Bd. of Supvrs.

Va., Tappahannock—Light and Water—City voted \$15,000 bonds. Address The Mayor.

W. Va., Logan—Street—City will receive bids until Dec. 28 for \$30,000, 6%, \$1000 denom. bonds. J. A. Hogg, Mayor.

W. Va., Weston—School—Sewer and Street—City will vote Dec. 30 on \$300,000 bonds. Address The Mayor.

W. Va., Williamson—Road—City, will sell \$15,000, 6% bonds. Address The Mayor.

### Financial Notes.

The Mossy Creek Bank, Jefferson City, Tenn., will increase capital from \$50,000 to \$60,000.

City National Bank, Knoxville, Tenn., contemplates increasing capital.

First Carolinas Joint Stock Land Bank, Columbia, S. C., increased capital from \$250,000 to \$750,000.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Casualty Life & Insurance Co., Nashville, Tenn., will increase capital from \$500,000 to \$600,000. A. M. Burton, Prest.

Farmers and Merchants' Bank, Nashville, Tenn., will increase capital from \$50,000 to \$200,000.

First State Bank, Eustis, Fla., will increase capital from \$25,000 to \$75,000.

The Citizens' Bank of Eustis, Eustis, Fla., will increase capital from \$55,000 to \$80,000.

The Greater Louisville Savings & Building Assn., 419 West Market St., Louisville, Ky., will increase capital from \$3,500,000 to \$4,000,000. J. B. Judah, Prest.; L. Frank Withers, Treas.

### Trade Literature.

#### Boiler Economy and Efficiency.

"Talk-Talk Talk versus Coal Production," is the title of a large illustrated folder issued by the Heine Boiler Company, St. Louis, Mo., which presents many interesting facts about the economies to be obtained by the use of these boilers besides their great efficiency.

#### Automatic Stoker Control.

The Reeves Pulley Company, Columbus, Ind., giving a complete description of the Reeves automatic stoker control, which it is noted, regulates automatically both the stoker feed and the draft. Furthermore, it is said to automatically maintain steam pressure at any determined point. It can be arranged for either floor or ceiling type.

#### Stoker Efficiency Described.

Armour & Company's experience with Laclede-Christy stokers is described in a bulletin issued by the stoker department of the Laclede-Christy Clay Products Co., of St. Louis. The Kansas City Plant of Armour & Company is the particular subject of the publication which is adequately illustrated and which in addition to a description of the installation gives data on fuel, water, pressures, temperatures, gas analysis, coal analysis, ash analysis, capacity, evaporation and efficiencies.

#### "Loud Speakers" For Radio Work.

Bulletin No. 20 of the Roller-Smith Company, manufacturers of electrical instruments, meters and circuit breakers, 233 Broadway, New York, illustrates and describes their "Universal" radio telephone receivers and loud speakers. The latter is a new device which, it is stated, reproduces faithfully without distortion or rattling, communications from the deepest to the highest voice and also music. One of these loud speakers is 21 inches high with a bell mouth 10½ inches in diameter. The base is 7½ inches in diameter. It has a fine enamel finish.

#### Portable Loaders Described.

A new Link-Belt portable loader catalog has been issued by the Link-Belt Company, Nictown, Philadelphia, Pa., embracing their entire line of portable equipment. This book, it is stated, is the most up-to-date and complete ever issued by them. It is 8½ by 11 inches in size and contains complete specifications of all the standard machines which includes the one-man power swivelling loader, the portable belt conveyor, the standard type A machine for anthracite coal, and the CS loader for handling sand and gravel. Copies may be obtained from the company upon request.

### Lockwood's Paper Trade Directory.

Lockwood's Directory of the Paper and Allied Trades for 1923 is a large, comprehensive and finely printed volume of nearly 1000 pages giving full and complete information of general value to everyone interested in these lines of business. All of the departments show expansion notwithstanding changes inevitable during the post-war years. All of the different sections of the book have been gone over and checked with greatest

care so that the highest degree of accuracy in the contents is maintained as always. The directory is printed on heavy paper and the typography is everything that could be desired. Moreover, the advertising pages are of a character to please the eye as well as the minds of those who consult the volume, which is handsomely and substantially bound with lettering in gilt. The publishers are the Lockwood Trade Journal Company, Inc., 10 East 39th Street, New York, and the price is \$7.

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

#### Sales Manager Appointed.

A. R. Ulbrich, formerly sales manager of the Terry Manufacturing Company, Inc., has been appointed sales manager of the National Hoisting Engine Company, of Harrison, N. J., and will assume his new duties on January 1.

#### Erecting a New Factory.

The Fairfield Engineering Co., formerly of Lancaster, Ohio, are erecting a new factory building at Marion, Ohio, which will be occupied upon completion in March or April next. This company manufactures automatic loading, unloading and conveying machinery.

#### Official Changes.

The following changes have been made in the Worthington Pump & Machinery Corporation: E. T. Fishwick, formerly sales manager, made vice-president in charge of sales to succeed F. H. Jones, vice-president, who resigned; J. E. Sague, vice-president, who resigned, is succeeded by William Goodman, formerly assistant to the vice-president; James C. Barnaby, formerly plant engineer of the Staten Island Shipbuilding Co., is now in charge of certain engineering work in the Diesel oil engine division of the Worthington organization.

#### Novel Mechanical Combination.

A novel application of machinery has been made by engineers in Japan who made selections from catalogs of the Link-Belt Company, Chicago, for storing out and reclaiming coal. This fuel being mostly of small sizes or slack, the use of a Pratt box car loader does it no harm by breakage and the combination of this machine with a portable belt conveyor makes a very satisfactory and flexible device for handling the coal to and from different parts of a yard. This combination can also readily be used for handling other bulk materials that would not be injured by the box car loader which was developed for delivering sand, etc., to the farthest corners of a car.

#### Firm Exhibit Announced.

The Link-Belt Company, of Chicago and Philadelphia, will show their most improved machinery for road building at the Highway Industrial Exhibit to be held at the Coliseum, Chicago, January 15 to 19, 1923. Their display will occupy several spaces to the right of the main entrance just at the edge of the balcony. Among the features will be the new Link-Belt crawler type crane, which made such a fine record working on swampy ground for the new highway at the southern end of Lake Michigan; the one-man power swivelling portable loader, and a portable belt con-

veyor. These machines represent the latest developments in the road machinery line and will be shown with equipment.

#### Southern Brick Goes Far North.

The Sumter Brick Works, manufacturers of "Dixie Texture Brick," Sumter, S. C., report that they have this year broken all records for shipments of their products to points northward of the Mason and Dixon Line, having sent bricks to Atlantic City, Boston, Montreal, Detroit, Milwaukee, and Rochester, the latter city in Minnesota. They have also recently filled a large order from a prominent firm of dealers in builders' supplies at Montreal, Canada.

#### Ice and Refrigerating Machinery.

Sales and installations of their products at various points in the South have been made since the middle of last month by the York Manufacturing Co., manufacturers of ice making and refrigerating machinery, York, Pa., as follows: Baltimore, Md.; Belle, W. Va.; West Palm Beach, Fla.; Jefferson City, Mo.; Vinton, La.; Abilene, Tex.; Gary, W. Va.; El Paso, Tex.; Kansas City, Mo.; Huntington, W. Va.; Augusta, Ga.; Parkersburg, W. Va.; Lexington, Ky.; Houston, Tex.; Mobile, Ala.; San Saba, Tex.; St. Louis, Mo.; Monroe, La.; Fork Union, Va.; Richmond, Va.; Navasota, Tex.; Mound City, Mo.; San Benito, Tex.; Galveston, Tex.; Westwego, La.; Crescent, Mo.; Wauchula, Fla.; Jacksonville, Fla.; Childress, Tex.; Washington, D. C.; New Orleans, La. At some of the larger cities two or more installations were made.

#### Directors Elected.

At the second annual meeting of the Copper & Brass Research Association held in New York City on December 5 the following directors were elected for a year: R. L. Agassiz, President, Calumet & Hecla Mining Co.; Walter Douglas, president Phelps-Dodge Corporation; C. F. Kelley, president, Anaconda Copper Mining Co.; Stephen Birch, president, Kennecott Copper Corporation; Chas. Hayden, vice-president, Chino, Utah, Nevada Ray Companies; F. S. Chase, president, Chase Rolling Mills; Edward H. Binn, president C. G. Hussey & Co.; H. J. Rowland, sales manager, Rome Brass & Copper Co.; J. W. Allen, treasurer, Green-Canaan Copper Co.; Henry F. Bassett, president, Taunton-New Bedford Copper Co.; H. C. Bellinger, vice-president, Chile Exploration Co.; F. H. Brownell, vice-president, American Smelting & Refining Co.; J. Parke Channing, vice-president, Miami Copper Co.; Carl F. Dietz, president, Bridgeport Brass Co.; B. Goldsmith, president, National Brass & Copper Co.

(Continued on page 96)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



# DUPONT



## DYESTUFFS

### Developed Colors FOR Cotton

Pontamine Diazo Scarlet A

Pontamine Diazo Scarlet R

Pontamine Diazo Red 7 BL

Pontamine Diazo Bordeaux 7 B

Pontamine Diazo Blue M

Pontamine Diazo Orange

Pontamine Diazo Black BH Conc.

These dyestuffs as self-colors or in mixtures produce a range of exceptionally fast shades on cotton.

**E. I. du Pont de Nemours & Co., Inc.**

*Dyestuffs Department*

WILMINGTON, DELAWARE

*Branch Offices:*

New York      Boston      Providence  
Philadelphia      Chicago  
Charlotte, N. C.



E. O. Goss, president, Scovill Manufacturing Co.; Robert H. Gross, president, East Butte Copper Mining Co.; U. T. Hungerford, president U. T. Hungerford Brass & Copper Co.; C. V. Jenkins, treasurer, Chino, Utah, Nevada, Ray Companies; H. B. Paul, auditor, Calumet & Arizona Mining Co.; R. M. Raymond, director, United Verde Extension Mining Co.; A. E. Seelig, manager Michigan Copper & Brass Co.; W. Parsons Todd, manager of sales Copper Range Co. The first eight directors constitute the executive committee. R. L. Agassiz is president of the Association, whose offices are at 25 Broadway, New York City.

#### Changes in Sales Organization.

The McClave-Brooks Company, Scranton, Pa., manufacturers of McClave grates, combustion systems and Argand blowers, will make some changes in their sales organization on January 1, thus: A. R. St. John, of the New York office, will become manager of the Syracuse office, succeeding H. L. Hargett, George Blair, Jr., manager of the Philadelphia office, will also assume the duties of manager of the New York office, operating

them as one. D. G. Counts, will be manager of the newly opened office at Memphis, Tenn., with R. R. Causey as assistant in the Memphis-Dallas territory, Virginia and Florida will be added to the territory of J. C. Sanders, manager at Greenville, and a new office will be opened at Greensboro, N. C., under his management.

#### Representatives Appointed.

The Newman Manufacturing Company, of Cincinnati, Ohio, is now represented in Southern California by Frank R. Peck, of Los Angeles. The G. H. Alwine Co., of Omaha, will represent the Newman line in Nebraska, while in Houston, Galveston and Beaumont, Tex., the representative will be Young E. Douglass, of Houston. The Newman organization is planning to double its sales force during 1923.

#### Acid-Proof White Enamel.

An intensely white enamel, which exhaustive tests, it is stated, show resistant to the action of acids to a degree hitherto unknown, has been developed by the paint department of the Du Pont Company, Wilmington,

Del. This new enamel which has been studied by experts for more than a year, is expected to meet the need for protection of surfaces subjected to gases or fumes, such as are found in hospitals, chemical laboratories, bakeries, rubber factories, canning plants or any other places where fumes are present. It has a hard drying finish which approximates porcelain; it can be easily washed and, it is asserted, will not discolor with age or otherwise. In one test it was put in direct contact with sulphuric acid and after 24 hours it showed no change whatever. An expert is not needed to apply it.

#### Branch Office Opened.

The Ingersoll-Rand Company and the A. S. Cameron Steam Pump Works have opened a branch office at 718 Ellicott Square Building, Buffalo, N. Y. It is equipped to render full service to everyone interested in air, gas and ammonia compressors, vacuum pumps, turbo blowers and compressors, condensers, oil and gas engines, pneumatic tools, rock drills, centrifugal and direct acting pumps and other products of these companies.

### Continuing Short Time Operation in Lancashire Mills; Liverpool Exchange to Reopen on Saturdays.

Manchester, England.

Members of the Lancashire cotton industry engaged in spinning American cotton are strongly recommended to continue short time working by stopping on Saturdays and Mondays each week, which means a curtailment of production to the extent of 13 hours per week. A depressing state of affairs prevails in the Lancashire cotton industry, according to reports, and numerous spinning concerns can only be working at a loss. The result of the ballot of members with regard to reopening of the Liverpool Cotton Exchange on Saturday mornings was also announced, and it was reported that a very large majority of members were in favor of such reopening. The Federation will now bring pressure to bear upon the directors of the Liverpool Cotton Market to reopen the Exchange on Saturdays as in pre-war days.

#### Notes on Good Roads Construction.

The Rand Construction Co. of Bethany, Mo. has a contract for a stretch of concrete road west of Bethany and for

the erection of a bridge across a big creek at a cost of \$140,000.

Contracts for 22 miles of concrete paving were awarded by the Jefferson Co. Commissioners Court, Beaumont, Tex., to Smith Bros. of Crockett, at a cost of more than \$900,000. The improvements call for pavement with concrete base and rock asphalt topping. On the Nome Road, 15.53 miles of pavement will be laid at a cost of \$633,000 and 7.35 miles on the Voth Road will be built at a cost of \$273,000.

Road contracts will be let this month in Shelby Co., Ala., on the Birmingham and Montgomery Highway to cost approximately \$450,000. Bids were received on December 5, the low bidders being as follows: Project 99, Hancock Bros., Mobile, \$365,901, on concrete road; W. T. Taylor, Wilsonville, Ala., \$63,686 on bitulithic concrete and concrete base and \$342,803 on a bitulithic concrete road with stone base. Bids were submitted as follows on project 99-B: Hancock Bros., Mobile, Ala., \$416,783 on concrete road; W. T. Taylor, Wilsonville, Ala., \$414,536 on bitulithic concrete base; and Nichols Construction Co., Atlanta, \$388,612 on bitulithic concrete stone base.

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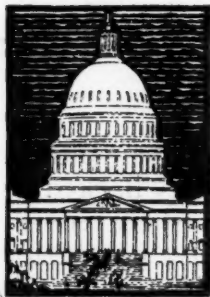
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Address .....

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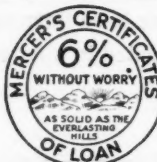
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## WE BUY MUNICIPAL BONDS

We are interested in the purchase of Southern Municipals including road, school, county, drainage and levee bonds.

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We want to buy bonds issued by cities, towns, counties, school, road or drainage districts that you may be able to take in exchange for work. Address us at our nearest office.

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Correspondence Solicited

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*Robert*

President

May your Christmas  
be as bright  
And glad as you desire,  
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To which your hopes aspire.

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# PROPOSALS

BOND ISSUES
BUILDINGS
PAVING
GOOD ROADS

Bids close January 5, 1923.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C. December 13, 1922.—**SEALED PROPOSALS** will be opened in this office at 3 p. m., January 5, 1923, for interior painting, finishing, etc., of buildings and structures, as listed, for the United States Veterans Hospital, at Perryville, Md. Specifications may be obtained at this office, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close January 4, 1923.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C. December 14, 1922.—**SEALED PROPOSALS** will be opened in this office at 3 p. m., January 4, 1923, for the installation complete of one full magnet control electric freight elevator, for the U. S. Post Office, Etc., Richmond, Va. Drawings and specifications may be obtained at this office in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close December 27, 1922.

**"PROPOSALS FOR OFFICERS' QUARTERS."** Sealed proposals will be received by Constructing Quartermaster, U. S. Army, Edgewood Arsenal, Md., until 11:00 A. M., December 27, 1922, and then opened for the construction of 20 sets of frame officers' quarters at Edgewood Arsenal, Md. Plans and specifications obtainable upon deposit of \$10.00, which will be refunded upon return of same in good condition. Right is reserved to accept any or to reject all bids.

Bids close December 26, 1922.

**U. S. ENGINEER OFFICE, WILMINGTON, N. C.** November 25, 1922. Sealed proposals will be received here until 12 M., December 26, 1922, and then opened for constructing one 60-foot by 22-foot by 4-foot steel barge. Further information on application.

Bids close December 30, 1922.

**U. S. ENGINEER OFFICE, HUNTINGTON, W. VA.** November 29, 1922.—Sealed proposals will be received here until 11 A. M. (Eastern time) December 30, 1922, and then opened, for constructing a Fireproof Powerhouse at Dam No. 30, Ohio River. Further information on application.

Bids close December 30, 1922.

**U. S. ENGINEER OFFICE, Florence, Alabama.** Sealed Proposals will be received here until 11 A. M., December 30, 1922, and then opened, for the construction and delivery of one 15-inch dredging pump for dredge PETTUS. Further information on application.

Bids close January 15, 1923.

## \$500,000 Road Bonds

December 11, 1922.

Sealed proposals will be received at the office of the Police Jury of Vermilion Parish in the courthouse, Abbeville, Louisiana, until eleven o'clock A. M., January 15th, 1923, for the Five Hundred Thousand Dollar Bond Issue of Road District Number two of Vermilion Parish, Louisiana.

A certified check for Ten Thousand Dollars must accompany each bid as evidence of good faith to be forfeited to the District should the bidder fail to carry out requirements of the bid.

Depository and fiscal agency arrangements having already been made, no bid with depository or fiscal agency features will be entertained.

The Police Jury reserves the right to reject any or all bids.

Assessment of Property in District, 1921 over \$10,000,000.00. Estimated real value, \$15,000,000.00.

Incorporated towns in District: Delcambre, Erath, Abbeville, Kaplan and Maurice.

Population of District: Census 1920, 17,817; Present population estimated, 19,000. Police Jury of Vermilion Parish, Louisiana.

JOS. E. BROUSSARD,  
President.  
ROM. P. LEBLANC,  
Secretary.

Bids close January 9, 1923.

**PROPOSALS FOR FUEL OIL.**—Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C. until 10:30 o'clock A. M., January 9, 1923, at which time they will be opened in public, for furnishing the above-mentioned fuel oil. Blanks and information relating to this Circular (1505) may be obtained from this Office or the offices of the assistant purchasing agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer offices in the principal cities throughout the United States. A. L. Flint, General Purchasing Officer.

Bids close January 3, 1923.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C. December 12, 1922.—**SEALED PROPOSALS** will be opened in this office at 2 p. m., January 3, 1923, for alterations in the United States Post Office, El Paso, Texas. Drawings and specifications may be obtained from the Custodian of the building or at this office, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close December 29, 1922.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C. December 7, 1922.—**SEALED PROPOSALS** will be opened in this office at 3 P. M., December 29, 1922, for furnishing the materials and labor required for changes on first and second floors, in the U. S. Post Office and Court House at Birmingham, Ala. Drawings and specifications may be obtained from the Custodian at the building or at this office, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close January 9, 1923.

## \$150,000 Street Improvement Bonds

Union, S. C.

NOTICE IS HEREBY GIVEN, that the City Council of Union, S. C. (pursuant to an election held on the 12th day of December, 1922, upon a petition of a majority of the free-holders of the said City of Union), will offer for sale and will receive sealed bids on the following bonds of the said City of Union, to wit:

One hundred and fifty thousand, (\$150,000) dollars, Serial Coupon Bonds, the said bonds being for the purpose of building and improving the public streets of the said City of Union, and to be known as "Street Improvement Bonds," the said bonds to be in denominations of One Thousand Dollars each, and to be dated January 1st, 1923, to bear interest at the rate of not more than five per cent. interest to be payable semi-annually on the first day of January and the first day of July of each and every period after the issuance of the same during the existence of the same, with retirement of Five Thousand Dollars of the principal of the said bonds annually each and every year after the issue of the same until paid, and the said bonds to run for a period of not more than Thirty years.

The said bids are to be sealed bids and will be received up until One O'clock, P. M., on January 9th, 1923; and each bid must be accompanied by a deposit of a certified check in the sum of One Thousand Dollars, as evidence of good faith, to become forfeited, in event, said bid is accepted and said bidder fails to comply with the same. All bids with the required deposit are to be filed with W. D. Arthur, City Clerk and Treasurer of the City of Union, S. C. The said bids will be opened by the City Council in open Session, at the City Council Chamber, Union, S. C., at One o'clock, P. M., on the ninth day of January, 1923.

Given under the Hands and Seals of the Mayor and City Clerk and Treasurer and Seal of the City of Union on this the sixteenth day of December, 1922.

(Seal)

O. E. SMITH,  
Mayor.

W. D. ARTHUR,  
Clerk and Treasurer.

Bids close January 12, 1923.

## \$500,000 4½% School Bonds

Cumberland, Md.

Sealed bids will be received by the County Commissioners of Allegany County, Maryland, at their office in the Court House, Cumberland, Md., until 11 a. m., January 12, 1923, for an issue of Allegany County Bonds known as "ALLEGANY COUNTY SCHOOL BOND ISSUE OF NINETEEN HUNDRED AND TWENTY-TWO," amounting to Five Hundred Thousand (\$500,000) Dollars.

Bids may be for part or all of the issue. Certified check for five (5%) per cent of the amount bid must be deposited with any bid for said bonds as security for compliance with bid.

The bonds are authorized by Chapter 234 of the Acts of 1922, of the General Assembly of Maryland and bear interest at the rate of four and one-half (4½%) per cent per annum, and will be issued in denominations of One Hundred (\$100) Dollars, Five Hundred (\$500) Dollars, or One Thousand (\$1000) Dollars, each, purchaser to decide, payable Fifty Thousand (\$50,000) Dollars, on the first day of July, 1936, and a like series to the amount of Fifty Thousand (\$50,000) Dollars on the first day of July in each and every year thereafter, until all of said bonds have been redeemed. The last payment falling due and payable on the first day of July, 1945. Interest payable semi-annually represented by interest coupons attached to said bonds. Bonds are exempt from municipal and county taxations in Allegany County.

### FINANCIAL STATEMENT OF ALLEGANY COUNTY.

Assessable basis .....	\$56,693,750.00
Bonded indebtedness (not including this issue) .....	1,020,000.00
No floating debt.	

Address all bids to the County Commissioners of Allegany County, Cumberland care of Thomas P. Richards, Clerk, marked "BIDS FOR BONDS." Further information can be obtained from Thomas P. Richards, Clerk, or Lloyd Lowndes, Attorney, Cumberland, Md.

Right is reserved to reject any and all bids.

By order of the County Commissioners of Allegany County, Maryland.

THOMAS P. RICHARDS,  
Clerk.

Bids close January 10, 1923.

## Paving, Water and Sewer Lines

Albemarle, N. C.

Sealed proposals will be received by the Mayor and Board of Commissioners of the Town of Albemarle, N. C., at the Town Hall in Albemarle, N. C., until 12 o'clock, noon, January 10, 1923, for street improvements, water and sewer lines.

The work will consist of about:

- 50,000 to 70,000 sq. yds. of asphalt or other pavement.
- 28,000 lineal feet of curb and gutter.
- 2,500 lineal feet of granite curb.
- 800 square yards of concrete gutter.
- 26,000 cubic yards of grading.
- 3,500 feet storm water drains.
- 17,700 lineal feet of 6 and 8-inch cast iron water mains.
- 16,000 lineal feet of 8-inch terra cotta sewer laterals.

Proposals must be marked, "Proposal for Street Improvements."

All bids must be upon blank forms provided in the Proposal and Contract and Specifications.

Each bid must be accompanied by a certified check for \$5000.00, as evidence of good faith.

Plans and specifications will be on file at the Clerk's office in Albemarle, and at the office of the Engineer in Durham, N. C., and copies of the specifications, form of proposal, etc., will be mailed upon application to the Engineer at Durham, N. C. The right is reserved to reject any or all bids.

O. J. SIKES, Mayor,  
ELI KENDRICK, Clerk.

Engineer:  
Gilbert C. White Co.,  
Durham, N. C.

Bids close January 4, 1923.

**Paving**

Sanford, Fla.  
Sealed proposals will be received by the City Commission of Sanford, Fla. at their office in the City Hall, at or before 3 p. m., January 4, 1923, for grading, draining and paving the following streets, to wit:

Sanford Avenue from Fifth Street to Tenth Street, 5138 sq. yds.  
Palmetto Avenue from Second Street to Fifteenth St. 14,443 sq. yds.  
Magnolia Avenue from Tenth Street to Central Street, 8500 sq. yds.  
Fourth Street from Sanford Avenue to Myrtle Avenue, 3570 sq. yds.  
Myrtle Avenue from Fourth Street to Thirteenth Street 8665 sq. yds.  
Elm Avenue from First Street to Thirteenth Street 13,110 sq. yds.

Bids will be received on the following types of pavement, sheet asphalt, asphalt concrete, asphalt block and vitrified brick. Proposals to be presented in a sealed envelope, endorsed on the outside "Bid for Paving," Sanford, Florida, and the name of the bidder or bidders.

Each proposal must be accompanied by a certified check, made payable at sight, to the order of the City of Sanford, Fla., for 3 per cent of the amount of their bid.

The successful bidder or bidders will be required to give a bond equal to 50 per cent of his or their bid, and such bond to be executed by a surety company licensed to do business in the State of Florida, said bond to be approved by the City Commission.

Copies of the plans and specifications may be seen at the office of the City manager, or at the office of Fred T. Williams, Engineer. Plans and specifications may be obtained at either office on deposit of \$10.00 which will be returned if bid is made.

The City Commissioners reserve the right to reject any, or all bids, or to accept any bid they deem to be for the best interest of the City.

C. J. RYAN,  
City Manager.

Bids close January 11, 1923.

**Structural Steel**

New Orleans, La.  
Sealed proposals will be received by the Board of Commissioners of the Port of New Orleans at their office, Suite 200 New Court Building, until 3:00 P. M., January 11, 1923, and then publicly opened for furnishing, erecting and painting of the structural steel required for the Market Street Shed.

A deposit of \$1000.00 in cash or certified check is required with each proposal.

A bond to the amount of 50% of the sum bid is required with material contract.

Specifications and proposal forms are on file in the office of the Supervisor of Purchases, at No. 1 Canal Street, New Orleans, La. Complete sets will be furnished to prospective bidders on deposit of \$5.00, which will be refunded to depositors who submit proposals, or return sets in good condition.

The right is reserved to reject any or all bids and to waive informalities.

J. H. WALSH, General Manager.

Bids close January 11, 1923.

**Water Works Improvements**

Albemarle, N. C.

Sealed proposals will be received by the Mayor and Board of Commissioners of the Town of Albemarle, N. C., at the Town Hall in Albemarle, N. C., until 12 o'clock, noon, January 11, 1923, for Waterworks Improvements.

The work will consist of:  
Brick and Concrete Addition to Filter.  
Concrete Filter Tubs.  
Concrete Coagulation Basin.  
Brick and Concrete Chemical House.  
Filter Plant Equipment.

Proposals must be marked, "Proposal for Waterworks Improvements." All bids must be upon blank forms provided in the "Proposal, Specifications and Contract."

Each bid must be accompanied by a certified check for not less than five (5%) per cent of the amount of the bid, as evidence of good faith.

Plans and specifications will be on file at the Clerk's office in Albemarle, and at the office of the Engineer in Durham, N. C.; and copies of specifications, form of proposal etc., will be mailed upon application to the Engineer at Durham, N. C., accompanied by payment of Ten (\$10.00) Dollars for each set of plans and specifications, which will be refunded to those who submit bona-fide bids.

The right is reserved to reject any or all bids.

O. J. SIKES, Mayor,  
ELI KENDRICK, Clerk.

Engineer:  
Gilbert C. White Co.,  
Durham, N. C.

Bids close January 16, 1923.

**Sewers**

OFFICE OF THE CITY ENGINEER.  
Richmond, Va.

Sealed proposals will be received at this office until 12 o'clock Noon, Tuesday, January 16, 1923, for the building of Reinforced Concrete, Precast Concrete, Segment Block, Brick and Vitrified Pipe sewers, at various places within the limits of the City of Richmond.

The approximate cost of the work is \$700,000.00. Of this amount \$250,000.00 will be for various contracts for materials, to be furnished by the City, at the site of the work, and \$450,000.00 for various contracts for construction. A deposit of \$10.00 per set is required for plans and specifications before they are delivered to bidder which amount is returnable after bidder's proposal is received.

Forms of proposals can be obtained on application.

A certified check for amount stated on proposals must accompany each bid as a guarantee of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

ALLEN J. SAVILLE,  
Director of Public Works.  
CHAS. E. BOLLING,  
City Engineer.

Bids close December 27, 1922.

**Elevated Water Tank**

Kingsville, Tex.

Bids will be received by the City of Kingsville, Tex., not later than 3 p. m., December 27, 1922, at Kingsville, Tex., for the complete construction and installation of a 250,000 gallon elevated water tank for the Water Works system of the City of Kingsville, the tank and tower to have a total elevation of 90 feet.

Certified check for 5% of the amount of the contractor's bid must accompany same, as a forfeit, in case the contractor whose bid is accepted fails to make bond and execute contract in the given time.

Plans and specifications may be had from the City Clerk, City of Kingsville, Tex.

The city of Kingsville reserves the right to reject any and all bids.

Bids close January 20, 1923.

**Brick School**

Cottage City, Md., Dec. 2, 1922.

Sealed proposals will be received and opened January 20, 1923, at 8 o'clock P. M., at the residence of Victor E. Peterson, 6 Ross Street, Cottage City, Md., for erection of an up-to-date one-story, four-room and basement brick school building; to be located at Central Avenue near Spa Street, Cottage City. Plans and specifications may be obtained from C. M. Lighthouse, Cottage City, upon deposit of \$10 to insure return. BY AUTHORITY OF BOARD OF EDUCATION OF PRINCE GEORGE'S COUNTY, MD.

Bids close January 10, 1923.

**Tennessee War Memorial and Capitol Annex Buildings**

Nashville, Tenn.

Sealed bids will be received as the Tennessee Memorial Commission at the office of Hill McAllister, Chairman of the building committee, STATE CAPITOL for the erection of the TENNESSEE WAR MEMORIAL AND CAPITOL ANNEX BUILDINGS.

Plans and specifications are by Edward Dougherty, of Nashville and McKim Mead and White, of New York, Associated Architects.

Application for plans should be made to Edward Dougherty, 900 Stahlman Building. Accompanied by a check of \$25.00 to cover cost of the plans and specifications.

Surety Bonds for the execution of the work will be required of the contractor, according to the Tennessee code, and besides the usual conditions shall contain also a clause binding the contractor to "pay for all materials and labor used in said contract in lawful money of the United States." The amount of the bond shall be as follows:

One-half on the first two thousand dollars of contract price. Thirty-five per cent on the next three thousand dollars. Twenty-five per cent on the balance up to the amount of bid. A certified check for five per cent of the amount of the bond required shall accompany each bid. The Commission reserves the right to reject any and all bids.

**MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES**

Colonial estate, farms, timber, coal, camps, game-preserves, health-resorts, grazing lands, sub-divisions, colonization. Willis & McNell, General Real Estate, Rockymount, Virginia.

**FIRE AND PLASTIC CLAY PROPERTY HIGH GRADE FIRE AND PLASTIC CLAY FOR SALE**

Two hundred acres, situated on the main line Baltimore & Ohio Railroad, four miles east of Grafton, West Va. For particulars communicate with Fred O. Blue, Charleston, West Va.

**IRON ORE LAND**

Parties desiring to purchase mountain land rich in iron ore, testing at least 60%, will communicate with D. L. Breeden, Rocklin, Va.

**RATES AND CONDITIONS**

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisement accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 28c. per line; 300 lines, 26c. per line; 500 lines or more, 25c. per line.

**COAL LANDS AND MINES**

FOR SALE Two coal properties in Virginia, located on Carolina, Clinchfield & Ohio Railway. Non-Union field. Electrically equipped. C. & O. Big Sandy rates apply to western points. Low rates to Southern points. Terms. Address Box 148, Johnson City, Tenn.

For Sale: An operating coal mine near large City. Ten thousand acres in fee, highest grade of coal; both rail and river transportation. For full particulars confer with O. F. Jones, 612 West 6th Street, Chattanooga, Tennessee.

**FARM AND TIMBER LAND**

Florida Timberland, 83,000 acres, on harbor, priced for quick sale, \$8.00 acre. WYOMING, 13,018 acres, for irrigation, magnificent colonization project for sale account of death, attractive development investment, unusual opportunity for large profits, \$12.50 acre. A. M. Riedesel, Denver, Colo.

COAL LANDS AND MINES

FOR SALE—Going coal mines—coal, oil and gas lands—timber tracts. Reports made on same anywhere. E. H. Morris, Box 518, Charleston, W. Va.

MINING PROPERTY

In W. Va., on C. & O. R. R.; 2000 acres fully equipped mines. Capacity of 500 tons of Pool No. 1; will sacrifice for quick sale.

INFORMATION

will be furnished responsible interested parties.

DALE THOMAS

603 Charleston National Bank Building  
Charleston, W. Va.

For Sale: Coal Mine—Located joint line Louisville-Nashville and Southern Rys. Fully equipped, now producing 150 tons daily, operating 36-inch Jellico seam. Excellent opportunity factory desiring dependable supply high grade coal. Price \$14,000.00. Terms if desired.

For further particulars address Dr. E. A. Gaynes, 513 Walnut St., Knoxville, Tenn.

TIMBER

TIMBER AND LOGS

Red Cedar, Forked Leaf, White Oak, Ash, and Hickory Logs, car lots. Large tracts timber Hardwood or Pine. S. J. Burkhitt, General Delivery, Little Rock, Ark.

STANDING TIMBER FOR SALE—Approximately 10,000,000 feet as follows: 3,250,000 feet Oak, about 90% White Oak, 1,000,000 feet Poplar, 500,000 feet Forest Pine, and 5,250,000 feet Second Growth Pine.

This is handsome timber. Most of it large, tall, smooth and straight. Situated in Charlotte County and Halifax County, Virginia, lying between the Virginia Railway and the Norfolk & Western Railway, being two miles distant from each railway, and taking favorable freight rates to the north, east and west. The haul to one railway is over an improved sand clay road.

This timber stands on about 1400 acres. Logging conditions are excellent. Price reasonable. Terms liberal. Personal investigation invited. Address No. 6105 care Manufacturers Record, Baltimore, Md.

From 15 to 17 million feet timber, principally original pine and oak; large, tall, smooth, straight, high-grade, on level land, between Richmond and Washington; 8 miles level road to station; freight rates low to all northern and eastern cities, \$90,000. Most of this pine and white oak will cut 60 feet clear lengths. Lafayette Mann, 123 N. Eighth St., Richmond, Va.

FARM AND TIMBER LAND

FLORIDA—Timber, Colonization and Fruitland tracts: any size; best in Florida. Maurer Company, Orlando, Fla.

FARM, FRUIT, AND TRUCK LANDS

FLORIDA

FLORIDA—Did you know that Florida is developing faster than any other State in the Union? It is, indeed, a land of great resources and opportunities. Come and be one of us. No coal bills, no wintry ice or snow—just sunshine, and health, and opportunity. Send for booklet "Largest Orange Tree in the World;" we have a Home, Grove or Farm for you. Tampa-West Coast Realty Co., (Inc.) opposite Post office, "Since Before the War," Tampa, Fla.

FOR SALE

Fine farm, 600 acres—480 acres in cultivation—8 tenant houses—plenty of water, 100 acres in bearing paper shell pecans. Price \$50,000 spot cash. Reason for selling, need the money. Louis B. Smith, Greenwood, Fla.

NORTH CAROLINA

FOR SALE—50-acre farm, \$3000; 140-acre farm, \$6000. Write for particulars. J. B. Phillips, Jr., Middlesex, N. C.

SOUTH CAROLINA

Truck farms that pay dividends annually can be bought at reasonable prices here. Vegetables are shipped eight months in the year. Three and four crops are grown on the same land annually. Excellent climate and health. Plenty of labor; strikes unknown. Well organized association that sells all farm products. For particulars write, Lake Realty Company, Beaufort, S. C.

BUSINESS OPPORTUNITIES

FOR LEASE—Office space in Rhodes Building and loft space in adjoining connecting building. fireproof, steam heated, on main thoroughfare, three blocks from center of city, especially adapted to Manufacturers' Agents, carrying stocks or samples. Let us furnish particulars as to service rates, etc. A. G. Rhodes & Son, 202 Rhodes Building, Atlanta, Ga.

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW, Harlow Building, Colorado Building Alexandria, Va. Washington, D. C.

Jobber and Distributor—Entirely new idea in quality pencil line. Sales large and repeating where introduced. Capital requirements small, as no stock to carry. Exclusive territory. Mr. Payne, Sales Manager, 711 Goodfellow Ave., St. Louis, Mo.

Interest open in Marine Transportation and Commission Company. Business enough from South to earn \$300,000 Net Annually. 25% on capital invested. Alfred S. Perry, Perry Building, Fairfield, Conn.

BEST SECTION OF THE SOUTH

If you want a Cotton Mill, or Southern Mill Stocks or Investment in Central Real Estate or Large Suburban Development property or a Manufacturing Site

Address F. C. ABBOTT & COMPANY, Trust Building, Charlotte, N. C.

FINANCIAL

The Fraudulent gold basis "Federal Reserve Act" destroys the control of our Government over its money system and is a ruinous betrayal of the people by Congress. Read its exposure and the Remedy in "Democracy vs. Plutocracy," by T. Cushing Daniel. Popular Edition, 25 cents. The Monetary Educational Bureau, 1416 F St., Washington, D. C.

CAPITAL, to buy share or bond issues \$25,000 and up with full security in industrial, mining, railway, manufacturing, merchandise or other good enterprises. C. C. Thurmond, Box 521, Athens, Ga.

Wanted to bond our company for \$100,000 in such a way that it will pay out in seven years. Will pay 8%, and defray expenses of appraising and drawing papers. We carry at least \$250,000 worth of real estate. Investment perfectly safe. What can you offer? Box 511, Charleston, W. Va.

COLLECTIONS

Past due accounts collected promptly on commission basis—send us statements—no collection, no charge. Remit on day of collection. Rate card on request. Correspondents in all cities. Herbert & Co., Rand McNally Building, Chicago, Ill.

INDUSTRIES WANTED

Manufacturers come South where labor is cheap can furnish buildings, tracks, electric power and motors. Will take stock. Live town. Covington Cotton Oil Co., Covington, Ga.

Textile and paper mills wanted. Ideal location, abundant supply raw material, efficient cheap labor, cheap fuel, splendid labor conditions. Write Chamber of Commerce, Laurel, Mississippi.

Terrell, Texas, wants more industries, particularly a cotton mill. Free site. Fine opportunity. Population 9000. Thirty miles from Dallas. Texas Midland railroad, electric interurban, trunk line of Texas & Pacific. Plenty labor, water, raw material. Address Chamber of Commerce, Terrell, Texas.

COTTON MILL LOCATION.

Cotton mill site offered to any one to establish mills in Camp Hill, Alabama. High class labor at reasonable prices plentiful: Electric power furnished by ALABAMA POWER COMPANY; Good water supply; good citizenship; located in the heart of the cotton belt.

The Chamber of Commerce, Camp Hill, Ala., Luther Land, Secy.

INDUSTRIES WANTED

MISSOURI LETTING CONTRACTS FOR CONCRETE ROADS. Near Boonville, Mo., are deposits of rock suitable for concrete construction. Located midway between St. Louis and Kansas City on Main Trunk Line Cross-State Highway. H. C. Neef, Secy., Chamber of Commerce.

Wanted—To lease or purchase, going lime plant with hydrating equipment, in Eastern or Southeastern States. Reply with some details plant and quarry equipment. Preference given White Magnesium Lime. Address No. 6100 care Manufacturers Record, Baltimore, Md.

INDUSTRIAL PLANTS

FOR SALE OR LEASE—Modern, three-story factory building, with electric lights, heat and elevator. In business section, on railroad. Fifteen thousand square feet of floor space. Suitable for manufacturing cigars, garments or other light industry where electric power is used. Cheap labor and current. Location: Best City in Virginia; three railroads and on Lee Highway. 140 miles southwest of Washington, D. C.—John E. Sullivan, Harrisonburg, Va.

FOR SALE—Fine building and manufacturing site, 1600 feet on main highway, extending back to the main line of Southern railway tract about 400 feet deep. Back of this there is 67 acres in the same tract with about 1000 feet railroad frontage. This property is two miles from the center of the City of Charlotte, N. C. Adjoining other manufacturing plants, Charlotte has a population of 60,000. Some one can clean up 50,000.00 bucks on this property. Write us for price and blueprints. Shuman Bros., owners, P. O. Box 775, Charlotte, N. C.

FACTORY SITES

BALTIMORE

FACTORY

SITES

William Martien & Company,

1413 Lexington Bldg.,

Baltimore, Md.

FOR SALE—Tract 264 acres one mile from railroad station in town of 2500 to 3000 inhabitants, over half of which is heavily timbered with large sweet gum, cypress, black gum, white oak, water oak, etc., also young pine. Good location for furniture, crate, box or barrel factory. Small river furnishes abundance high grade building sand, ideal for concrete works. J. R. Ritter, Kingstree, South Carolina.

MANUFACTURING SITE

CAMDEN, SOUTH CAROLINA. IDEAL SITE LOCATED S. A. L. AND SOUTHERN RAILWAYS, WITHIN 300 YARDS OF HYDRO-ELECTRIC POWER JUST OUTSIDE OF CITY LIMITS. PRICE VERY REASONABLE.

T. K. TROTTER, ATTORNEY, CAMDEN, S. C.

A GREAT MANUFACTURING SITE. A LARGE WATER POWER GRIST MILL For Sale, in 1 1/4-Miles of Southern Ry., in Southern, Va., with 55-Acres of Land, with all Water Rights, and Dam, there can be Two Thousand H. P. gotten there.

A Large Timber Farm also for Sale, 22-Miles of Petersburg, Va., in 1-Mile of Ry. Station, with Modern Dwelling.

Some have Estimated, there are Three Million Ft. of Nice Timber standing on it, for Description of Mill and Large Timber Farm, Write to L. H. YANCEY, Sale Agt. and Owner, Box 232, Clarksville, Va.

JACKSONVILLE, FLORIDA.

For Sale or Lease, plot 250 by 1200 feet, centrally located on deep water and railroad yards. Exceptional location for factory, warehouse or terminals. Myron L. Howard, Box 1115.



**FACTORY SITES**

Factory site, with or without wharf, of about six acres, double railroad track on wharf, for sale or lease.  
Hastings Bros., Norfolk, Va.

**PATENT ATTORNEYS**

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

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**INVENTORS**—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chand-lee & Chandlee, 412 7th St. N.W. Wash-ington, D. C.

**PATENTS, TRADE-MARKS AND COPY-RIGHTS**—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

**AGENCIES WANTED**

**MANUFACTURERS REPRESENTATIVE** established office with large selling force solicits accounts for the Carolinas. Address C. E. Rogers, Greensboro, N. C.

**SITUATIONS WANTED**

**ASPHALT** chemist with several years experience in the manufacture and laying of different types of bituminous pavements, desires permanent position with some municipality or contractor. References from City Engineers. Address 6107 care Manufacturers Record, Baltimore, Md.

**MEN WANTED**

Salaried positions \$2500 to \$25,000 upward; executive, technical, administrative, engineering, manufacturing, professional, managing, financial, etc., all lines. If you are qualified, and receptive to tentative offers for a new connection, you are invited to communicate in strict confidence with the undersigned, who will conduct preliminary negotiations for such positions. A method is provided through which you may receive overtures in confidence, without jeopardizing present connections, and in a manner conforming strictly to professional ethics. Send name and address only; preliminary particulars will be sent without obligating or compromising you in any way. R. W. Bixby, Inc., 403 Lockwood Building, Buffalo, N. Y.

**MEN WANTED**

**SALESMEN WANTED:** We need the services of capable salesmen with ability to sell plumbing supplies. Good opportunity for salesmen with large experience and acquaintance preferably with the **TRADE** of Virginia and North Carolina. McGraw-Yarbrough Co., Richmond, Va.

**LIME**

Five Oaks Lime & Stone Co., Tazewell, Va., announce that their new modern steel lime plant is now complete and producing a beautiful white lime, free of ashes. We desire to build up a market for our lime and will put forth every effort to satisfy our customers.

**HAULING**

We specialize in contract hauling on road and street and asphalt work. Will bid on pumping river sand delivered on job. Write, wire or phone us. Martin Motor Car Co., E. Radford, Va.

**MACHINERY AND SUPPLIES**

6 motors, some new,—will sacrifice if sold as a lot,—quick. Write for list. **PRATT THOMPSON,** 218-220 E. Lexington St., Baltimore, Md.



## SPECIAL ADVERTISEMENTS OF GENERAL INTEREST

### Factory and Warehouse Sites

AT

### ATLANTA

### For Sale or Lease

For Manufacturing or Warehouse Purposes Only  
ON

### Central of Georgia Railway

Extending from East Point to Inman, Georgia

Atlanta Rates	Regular Switching
Good Labor Supply	Service
Electric Power	Street Car Service
Water Supply	Suburban Trains
Electric Lights	Paved Roads

Sewerage

Write for Copy of

"The Natural Advantages of the Atlanta Industrial District"

**R. R. OTIS, Agent**

Arcade Building

ATLANTA

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### THE TEXAS AND PACIFIC RAILWAY CALLS ATTENTION

To the territory served by its lines in Louisiana and Texas, an investigation is requested concerning the many opportunities for the location of industries and warehouses at the numerous commercial centers, which are admirably located for manufacture and distribution.

Information concerning resources of territory, power, water facilities, prices of property, are solicited.

We wish to assist and co-operate in the proper location of industries.

Address:

**FRANK J. BURKE**

Land & Industrial Commissioner

Dallas, Texas

## Hauling Problems Solved

For Road Contractors and Industrial Operators by Hauling Engineers.

We have large fleets of motor trucks, from one to seven ton capacity—ready to haul for any contractor on any job, anywhere.

We have dump trucks, or stake bodies—can handle loose or batch aggregate—cement, lime, stone, dirt, lumber, anything.

Service our motto—Let us quote you and show how we can save you money.

# FARBER

TRUCKS GO EVERYWHERE

SERVICE

Farber Contracting Co.  
No. American Bldg., Phila., Pa.

## FOR SALE

A STEEL FRAME CONSTRUCTION  
DAYLIGHT BUILDING

293' x 74½'

This building is brand new, Blueprints will be furnished and inspection may be made at the Aberdeen proving grounds, upon application to

## UNITED IRON & METAL CO.

CATHERINE ST. and B. & O. R. R.  
BALTIMORE, MD.

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The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

Commercial & Agricultural  
Dev. Dept.—Above Lines  
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## MODERN NEW PLANT and 25 Acres—Elyria, Ohio

Main building monitor type, brick and steel, wood block floor. 82½ x 162. B. & O. siding in bldg. Electric Crane. Power House 50x51. Boilers, engine, generator and power wiring installed. Frame office building 16x48. City water and sewer. A wonderful buy at a real price.

W. S. POLE

1172 E. 6th Street

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## GOING BUSINESS—FOR SALE Fully Equipped Manufacturing Plant

Making an established line of plows, harrows, cultivators, etc. Located in Southwestern Ohio. Two railroad sidings, 85,000 sq. ft. floor space. 3½ acres land. Brick buildings.

The Long & Allstatter Co., Hamilton, Ohio

## FOR SALE

Just purchased entire yard of Carolina Shipyard at Wilmington, N. C. We are offering all materials for quick disposal and immediate delivery.

The following is a partial list of what we are offering:—

- 1—250'x180' Building—All columns and roof trusses steel.
- 1—252'x79' Building—All columns and roof trusses steel.
- 1—Steel crane.
- 7—Thomas "B" frame double drum electric hoists.
- 1—American angle heating furnace 3' wide, 60' long.
- 1—American plate heating furnace 8' 3" wide, 35' 3" long.
- 1—Davis Bournville Acetylene Generating Plant Cap. 300 cu. ft. gas per minute.
- 4—12"x8"x24" Worthington vertical Simplex boiler feed pumps.
- 1—10"x12"x12"x12" Worthington Horizontal simplex air and generating pump.
- 7—9"x9" general ordnance, double cylinder single drum hoists.
- 11—Griscom-Russell drinking water stills.
- 4—Jewell drinking water stills.
- Steel Booms.
- Steel Masts.
- 2—Double steel smoke stacks.
- 1—600 sq. ft. American Engineering Condenser.
- 6—1000 H.P. Boilers.
- 1—Baldwin-Altoona Locomotive.

together with steel blocks, steel wire rope, ship hardware, valves, switches, switch boards and other materials too numerous to mention. Write for catalogue today.

## H. Klaff & Co.

Central Ave. & Cough St.  
BALTIMORE, MD.

WILMINGTON, N. C.

Address all communications to Wilmington, N. C.



Plant Sites  
For Sale  
in the  
Birmingham District

HYDRO-ELECTRIC POWER  
EQUABLE CLIMATE

Sizes to suit all needs on all rail roads. Supplies of coal, coke, iron and steel within trucking distance.

Labor situation better than in other industrial centers. Hydro-electric power available. Equable climate Address

BIRMINGHAM REALTY CO.  
Owners  
BIRMINGHAM, ALA.

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One of the oldest and best known manufacturers of bearing metals desires to hear from manufacturer's agents in the South who cover a limited territory intensively.

Agencies will be on an exclusive basis with exceptionally liberal commissions. Applications will be considered only from those with well established connections for non-conflicting lines with the mechanical and operating departments of the industries in the district.

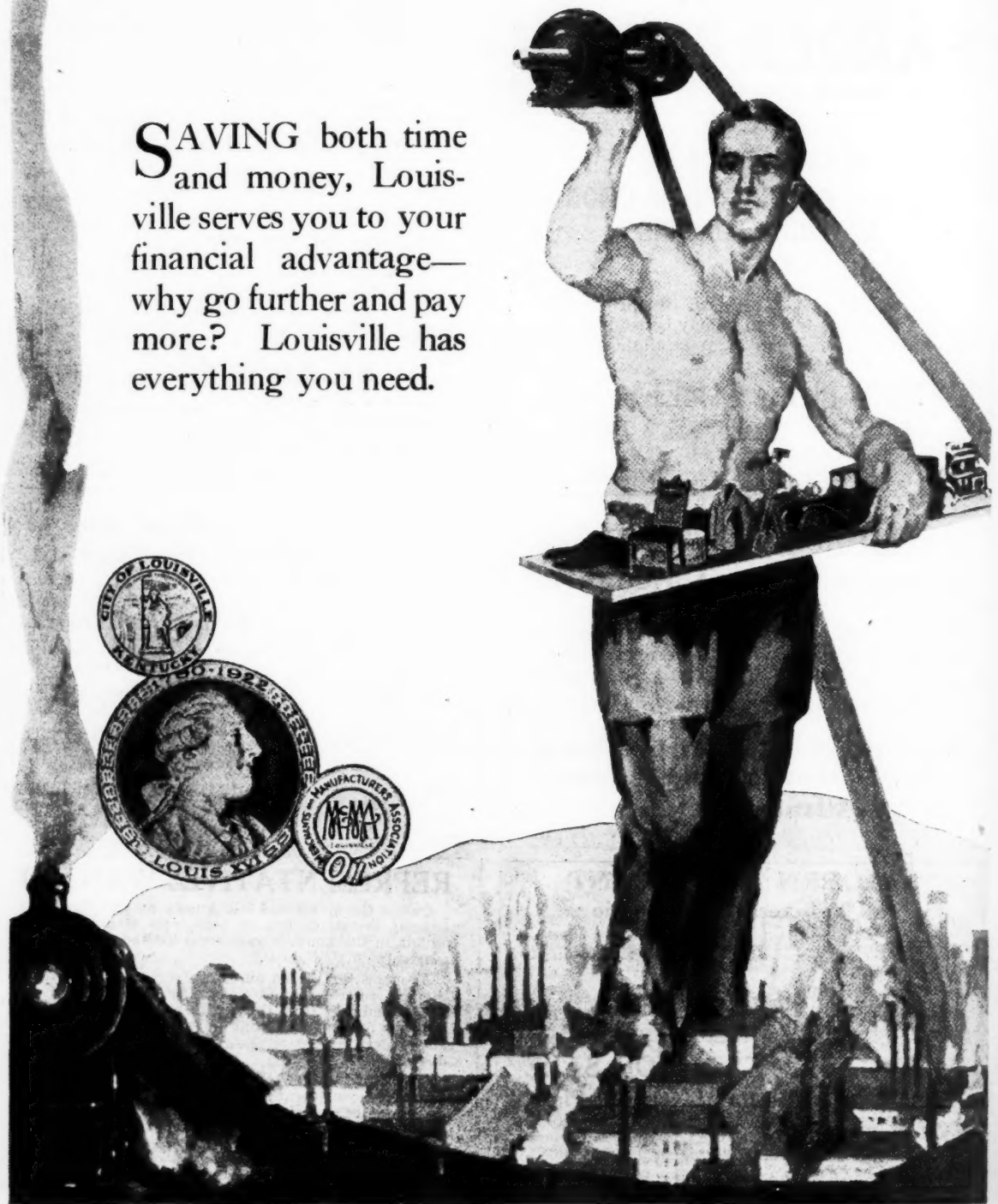
The products of the Company have unequalled claims to consideration and are sold under a rigid guarantee of superiority. Full advertising, sales and engineering assistance furnished.

Give full details in first letter.

Address A-278 care Manufacturers Record  
BALTIMORE, MARYLAND

# LOUIS

**S**AVING both time and money, Louisville serves you to your financial advantage—why go further and pay more? Louisville has everything you need.





# VILLE

A CITY THAT EXISTS not only for its citizens, but for the great sections with which it does business. In the growth and continued patronage of its great trade territory, Louisville's service to these sections is reflected.

Whether you come to buy or sell, to visit or locate, Louisville offers innumerable commercial advantages. Spend a day with us and capitalize the opportunities offered. Make new trade acquaintances, meet our Manufacturers, Jobbers, Wholesalers, Carriers, Bankers—feel the heart beat of the market with your own fingers—your visit will be an investment.

*Write or wire our secretary  
for any information.*

**MERCHANTS & MANUFACTURERS ASSN.**  
INCORPORATED  
**"Refunds Your Fare From Anywhere"**  
ROBERT H. KEAR 24-46



**NEW ORLEANS****Sales Representation—Storage—Delivery**

A New Orleans firm now representing several large manufacturers of nationally known products has ample facilities to care for further lines. Will act as sales representative or merely storage and delivery.

Large warehouse, private switch track, and adequate loading facilities. Desk space with phone and other conveniences may be had if desired. Address

A-280 care Manufacturers Record  
Baltimore, Md.

**WANTED**

**A PLANT TO LOCATE ON THE PROPERTY OF THE APPALACHIAN MARBLE COMPANY WHICH WILL REQUIRE ABOUT 200 TONS PER DAY OF MARBLE SPALLS, ONE MAN SIZE.**

This material is highly suitable for manufacturing lime and for crushed material, especially material that is required to be very finely ground as our materials grind very cheaply and have an extremely high analysis, 99% pure carbonate of lime.

**LOCATION**

Five miles from court house, Knoxville, Tenn. Good roads, railroad and on river.

*Can arrange for satisfactory location of plant and for a long time lease.*

**APPALACHIAN MARBLE COMPANY**

Incorporated  
**TENNESSEE MARBLES**  
KNOXVILLE - - TENN.

**MACHINERY AND EQUIPMENT WANTED****Freight Cars**

We are in the market for all-steel or steel underframe freight cars of not less than 40 ton capacity.

E. H. WILSON & COMPANY  
COMMERCIAL TRUST BUILDING  
PHILADELPHIA

**WANTED—AIR COMPRESSORS**

Used Imperial XB-2 Ingersoll-Rand air compressors, 15x12; 16x10x14; 19x12x16 sizes. Will consider Laidlaw feather valve machines, about same sizes. Full details and prices.

**UNIVERSAL PACKING COMPANY**  
190 N. State Street  
Chicago, Illinois

**PIPE WANTED**

Wanted to buy 1550 feet 5-inch pipe with flanges attached. Also, 550 feet 4-inch pipe screwed connections.

**APPALACHIAN MARBLE COMPANY**  
Knoxville, Tenn.

**WANTED**

Immediately 30 tons of 30 lb. relaying rail, 18-V body steel cars 3 or 4 yd. capacity or 10 Western 4 yd. capacity side dump, 36 inch gage.

One 8 to 12 ton locomotive. Must be small and compact to pass through culvert with ten foot head room from rails.

Quotations should be delivered at Selma, N. C.  
**GEORGE M. NORWOOD BRICK COMPANY**  
Raleigh, N. C.

If you wish to keep posted on the progress of the South, read the

**Manufacturers Record**  
Exponent of America

Price \$6.50 a year Six months for \$3.50

**RESALE DEPARTMENT****MACHINERY****EQUIPMENT****SUPPLIES****FORCED DRAFT FANS**

8—Buffalo Forced Draft Fans, Type TD-9½, 100,000 cu. ft. capacity direct connected to 225 Moore Steam Turbine.

Complete description on request  
**NASHVILLE INDUSTRIAL CORP.**  
JACKSONVILLE, TENNESSEE

**Engine For Sale**

10 H.P. Fairbanks Morse, Fuel Oil "Y" Engine complete with G. E. D. C. Generator with switch board, switches, meters and batteries. Fine outfit for church or country home lighting.

Eckel's Garage, Washington, N. J.

**HOISTING ENGINES**

1—9"x10" Lidgerwood D.C.D.D. and Boiler.  
2—9½"x12" Lambert D.C.D.D. and Boiler A.S.M.E.  
1—7"x10" Flory D.C. 3 D. and Boiler A.S.M.E.  
1—7"x10" Lidgerwood D.C.D.D. and Boiler.  
1—7¼"x10" National D.C.D.D. and Boiler.  
1—6¼"x10" Flory D.C.D.D. and Boiler.  
2—30 H.P. Lidgerwood Gasoline D.D.

Skeleton Engines almost every size and make. Double and Single Drum.

**LOUIS A. TARR, INC.**

N. W. Cor. Sharp & Conway Sts.  
BALTIMORE, MARYLAND

**CHAMPION FORGE**

U. S. GOV. WAR SURPLUS STOCK  
26 in. high  
16 in. hearth.

\$5

BRAND NEW, SUITABLE FOR GARAGES, CONTRACTORS AND FARMERS.  
Mail orders filled. Send money order or check  
**Contractors Mach. & Supply Co.**  
318 Penn Ave., Pittsburgh, Pa.  
Phone: Court 1141

**STEAM ENGINE and TRANSFORMERS FOR SALE**

1—Wellman-Seaver-Morgan 22x36 Horizontal non-condensing Corliss Valve Steam Engine, suitable for driving rubber mills.

3—100 KVA single phase 2200 to 440 Volts, oil insulated, self cooled, General Electric Type "H", Power Transformers.

All the above in good condition and subject to prior sale.

If interested communicate with  
**LAMBERT TIRE & RUBBER CO.**  
BARBERTON, OHIO

# HOISTS DERRICKS

## ELECTRIC HOIST AND DERRICK \$1600

PRICES F. O. B. CARS, HOG ISLAND, PA.

### *You Save at Least \$2000*

These Hoists and Derricks are standard late models, manufactured by The American Hoist & Derrick Co., St. Paul, Minn. They are almost new, and every one is **GUARANTEED** to be in first-class running order.

The Hoists have two drums and swingers, and are complete with Starting and Control Equipment. Either side or bank control, and rated 6000 pounds single line on each hoisting drum. Slewing rope 36 ft. per minute, and hoisting rope speed 160 ft. per minute. The **MOTORS** are Otis 37 H.P. A.C., 60 cycle, 3 phase, 440 volt, intermittent duty slip-ring induction type and, if desired, may be changed to suit the individual current requirements of purchasers at cost.

### DIMENSIONS OF DERRICKS

Mast..... 16 in. square, 40 ft. high.  
Boom..... Made of (2) 14 in. sq. timber 48 ft. long spliced to lengths of 80 ft. with (2)  $\frac{3}{4}$  in. and (2)  $1\frac{1}{2}$  in. truss rods.  
Stiff Legs. 14 in. sq. 55 and 60 ft long, or 16 in. sq. 50 ft. long. will furnish either length desired, capacity 5 to 10 tons. Bull wheel 16 ft. dia. Principal sheaves 16 in. dia. and 14 in. single blocks.  
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- 1—150 KVA., 2300 volt, 60 cycle, 3 phase generator to four valve engine, 200 RPM.
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- 1—200 K.W., Bullock, 220-250 volt, D.C., 450 RPM., 3 bearing.

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- 2—16x16 Automatic.
- 1—12x16 Buckeye.
- 13 & 22 $\frac{1}{2}$ x30 Buckeye.
- 1—16 $\frac{1}{2}$ x30 Buckeye.
- 1—24 x42 Fulton Corliss.
- 12 & 21x27 Buckeye.

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- 1—200 H.P. Keeler, 175 lbs.

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- 1—100 H.P. Locomotive Fire Box 100 lbs. pressure.
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- 1—20 H.P. Vertical; 100 lbs. pressure.

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- 1—18" x 42" Allis Right Hand Corliss.
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- 1—12" x 24" Douglas Plain Slide Valve.
- 1—10" x 12" Chandler Taylor Plain Slide Valve.
- 1—9" x 10" Arrington & Simms Automatic.

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- 1—16" x 8 1/2" x 12" Duplex Steam.
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- 1—12" x 7" x 10" Duplex Steam.
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- 3—6" x 4" x 8" Duplex Steam.
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- 2—4 1/2" x 2 1/4" x 4" Duplex Steam.
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- 1—Kingsford Horizontal Centrifugal Water Pump. 24" suction, 24" discharge.
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- 1—Sullivan Straight Line Air Compressor. 24" steam cylinder. 28" low pressure air cylinder. 16 1/2" high pressure air cylinder, 30" stroke. capacity 1850 cu. ft. per minute.
- 1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 15", capacity 1750 cu. ft.
- 1—Chicago Pneumatic Single Stage Steam Driven Compressor, two cylinders, size 22" x 16"; capacity 1700 cu. ft.
- 1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 15"; capacity 750 cu. ft.
- 1—Ingersoll-Sergeant High Pressure Steam Driven Air Compressor, two stage, low pressure cylinder 18" x 12", high pressure cylinder 12" x 12"; capacity 600 cu. ft.
- 1—Clayton Duplex Steam Driven Air Compressor, duplex steam and two stage air cylinders, dial steam cylinder 10", low pressure air cylinder 16 1/2", high pressure air cylinder 10", stroke 10"; capacity 425 cu. ft.
- 1—Chicago Pneumatic Fuel Oil Driven Compressor; capacity 800 cu. ft., 100 lbs. pressure.
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- 80 H.P. Return Tubular A.S.M.E.
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  - 1-600 K.W. General Electric, 3 phase, 60 cycle 250 volt Generator, direct connected to an 18 x 42 x 36 Filer & Stowell Corliss Engine.
  - 1-500 K.W. Westinghouse, 3 phase, 60 cycle, 2300 volt Generator, direct connected to a 26x42 Hamilton Corliss Engine.
  - 1-350 K.W. Westinghouse, 3 phase, 60 cycle, 220 volt Generator, direct connected to a 26 x 42 Murray Corliss Engine.
  - 1-300 kw. General Electric, 3 phase, 60 cycle 2300 volt Turbo Generator Set, Condensing.
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  - 1-250 K.V.A. Allis-Chalmers, 3 phase, 60 cycle 2300 volts, 600 R.P.M. belted type Alternator.
  - 2-200 K.W. encls. DeLaval-Bullock, 3 phase, 60 cycle, 220-440 volts Turbo Generator Sets, with condensers and accessories.
  - 1-125 K.V.A. Ft. Wayne, 3 phase, 60 cycle, 1150-2300 volts Generator, direct connected to a 15 x 16 Erie-Ball Automatic Engine, with accessories.
  - 1-100 kw. General Electric, 3 phase, 60 cycle, 220 volt, 3000 R.P.M. Turbo Generator Set with condenser and accessories.
  - 1-62½ K.W. Lincoln, 3 phase, 60 cycle, 480 volt generator, direct connected to an 11 x 12 Chandler & Taylor Automatic Engine.

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- 1-510-K.W. Crocker-Wheeler, 300 volt, compound wound, Generator, direct connected to a 19 x 18 x 36 McIntosh & Seymour Engine.
  - 1-300-K.W. Triumph, 250 volts, compound wound generator, direct connected to a 15 x 28 x 30 Hamilton cross compound Corliss engine.
  - 1-250 K.W. Triumph, 125 volts, Generator, direct connected to a 22 x 20 Skinner Automatic Engine. (Can be rewound for 250 volts.)
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  - 1-125-K.W. Fort Wayne, 230-volts, compound wound generator, direct connected to a 17 x 16 Skinner automatic engine.

- 1-100 K.W. Triumph, 125 volt, 675 R.P.M., compound wound, belted type Generator.
- 1-75 K.W. Ft. Wayne, 250 volts, compound wound, Generator, direct connected to a Skinner Automatic Engine.
- 1-35½ K.W. Western Electric, 250-volts compound wound generator, direct connected to a 9 x 12 Skinner engine.
- 1-35 K.W. Triumph, 125 volt, compound wound, Generator, direct connected to a 9x12 Skinner Automatic Engine.
- 1-22½ K.W. Allis-Chalmers, 120 volt, 187.5 amps 925 R.P.M., compound wound, belted type Generator.
- 1-20 K.W. Western Electric, 1250 R.P.M., 120 v-lt. compound wound, belted type Generator.
- 1-17½ K.W. Triumph, 125 volt, 110 amperes, 250 R.P.M., compound wound, belted type Generator.

## BOILERS

- 6-1040 H.P. Edgemore, ASME Code, 200 lb. pressure
- 8-520 H.P. Stirling, 175 lb. pressure
- 3-250 H.P. Franklin Heine type, 150-lb. pressure
- 3-207 H.P. Geary, Heine type, 175 lb. pressure
- 2-175 H.P. Atlas, 150-lb. pressure.
- 1-175 H.P. 78x18, high pressure, H. R. T
- 1-150 H.P. 72x18 high pressure H. R. T
- 3-125 H.P. 72x16 high pressure H. R. T
- 2-100 H.P. 66x16 high pressure H. R. T
- 2-100 H.P. 66x16, Standard, H. R. T
- 1-80 H.P. 60x16 high pressure H. R. T
- 1-60 H.P. 54x14 high pressure H. R. T
- 1-50 H.P. 48x120 high pressure, Vertical
- 1-75 H.P. High pressure Fire Box
- 1-40 H.P. High pressure Fire Box
- 2-25 H.P. 42x95, new Vertical, 125 lb. pressure
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- 1-10 H.P. 30x85 new Vertical, 100-lb. pressure

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- 1-17x34 x 48 Hamilton, Cross Compound, heavy duty, Corliss, designed for rope drive
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- 1-25x42 Allis heavy duty Corliss.
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- 1-16x16 Lane & Bodley Slide Valve.
- 1-14x18 Erie City Iron Works Automatic
- 1-13x16 Erie City Iron Works Automatic
- 1-13x16 Chandler & Taylor Slide Valve
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- 2-200 K.W. Westinghouse, 250 volts, D. C., 3 phase, 60 cycle, Rotary Converters

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No.	H.P.	Make.	Volts.	R.P.M.
12	7½	New General Electric	220	1800
6	10	New General Electric	220	1200
2	15	New Fairbanks-Morse	410	1750
5	15	New General Electric	220	1200
1	20	Used Fairbanks-Morse	220	1200
5	20	New General Electric	220	1200
5	25	New General Electric	220	1200
1	25	New G. E. (Slip Ring)	220	1200
3	30	New General Electric	220	1200
4	40	New General Electric	220	1200
4	50	New General Electric	220	900
1	50	Rebuilt General Electric	220	900
3	50	New G. E. (Slip Ring)	440	900
8	75	New G. E. (Slip Ring)	220	900
3	100	New G. E. (Slip Ring)	220	900
1	100	Rebuilt Westinghouse	220	1200
2	150	New G. E. (Slip Ring)	440	720
1	200	Used General Electric	2200	514
1	250	New Allis-Chalmers (Slip Ring)	2200	514
1	275	Used G. E. (Slip Ring)	240	600
1	960	New G. E. Synchronous	550	720

Also many other sizes and types.  
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No.	H.P.	Make	Volts	R.P.M.
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1	40	Rebuilt Jantz & Leist	250	800
3	30	Used Jantz & Leist	250	600
1	20	Rebuilt Triumph	250	965
1	15	Rebuilt Minneapolis	110	350
1	12½	Rebuilt Minneapolis	220	950
1	7½	Rebuilt Jantz & Leist	220	800
2	5	Rebuilt Triumph	220	1350
1	5	Rebuilt Jantz & Leist	220	900
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- 12-100 KVA—11,000, 10,500, 10,000 to 440-220 volts, 60 cycle, single phase, Westinghouse Transformers.
- 3-50 HP, 440 volt, Westinghouse Induction Motors, type CS, style 160817, 3 phase, 60 cycle, 1170 r.p.m., 57.5 amp., complete with pulley 12x12 base and starter.
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- 1-Complete Switchboard for 1-135 K.W. 125 volt generator
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Richmond, Virginia

**TANKS****IMMEDIATE SHIPMENT**

20" dia x 4' 1 1/2" long	85 Gal.	120" dia x 14' 5" long	8500 Gal.
27" dia x 4' 1 1/2" long	120 Gal.	120" dia x 16' 11" long	10000 Gal.
42" dia x 4' 1 1/2" long	280 Gal.	120" dia x 20' 3" long	12000 Gal.
52" dia x 5' 1 1/2" long	350 Gal.	120" dia x 25' 3" long	15000 Gal.
58" dia x 6' 0" long	800 Gal.	120" dia x 31' 1" long	18000 Gal.
65" dia x 7' 5 1/2" long	1000 Gal.	120" dia x 33' 7" long	20000 Gal.
65" dia x 5' 11 1/2" long	1000 Gal.	120" dia x 39' 5" long	23500 Gal.
69" dia x 9' 1 1/2" long	1500 Gal.	120" dia x 41' 11" long	25000 Gal.
69" dia x 16' 8 1/2" long	2000 Gal.	96" dia x 16' 3" long	6000 Gal.
69" dia x 15' 11 1/2" long	3000 Gal.	96" dia x 24' 3" long	9000 Gal.
75" dia x 16' 3 1/2" long	4000 Gal.	96" dia x 27' 0" long	10000 Gal.
75" dia x 17' 7 1/2" long	5000 Gal.	96" dia x 32' 3" long	12000 Gal.
75" dia x 40' 0" long	9500 Gal.	96" dia x 40' 3" long	15000 Gal.
84" dia x 32' 8" long	9400 Gal.		

**SHARPSVILLE BOILER WORKS CO.**

SHARPSVILLE, PA.

**MACHINERY—FOR SALE****ELECTRICAL**

DYNAMOS, MOTORS AND GENERATING UNITS.

**POWER PLANT**

BOILERS, ENGINES, PUMPS AND AIR COMPRESSORS.

**METAL WORKING**

MACHINE TOOLS PRESSES, LATHES, PLANERS, MILLING MACHINERY, Etc.

LARGE STOCK OF NEW AND USED EQUIPMENT ON HAND AT ALL TIMES

**THE O'BRIEN MACHINERY Co.**

113 N. Third St.

Philadelphia, Pa.

Long-Distance Bell Telephone: Market 0727  
Cable Address: O'Brien, Philadelphia**PUMPS**

40 New Scranton Size 6 x 5 1/4 x 6

Price \$150 Each

**LATHES**

10—19 x 8 Le Blond double back geared, quick change, belt driven

Price \$500 Each

**MALLORY MACHINERY CORP.**

BALTIMORE, MD.



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**Boilers**

- 1-150 H.P. Erie return tubular boilers 6'x18' with 78"-4'x18" flues. Butt Strap. All complete with Stacks.
- 3-Sterling 500 H.P. Water tube Boilers. All complete, with Stacks.

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- 1-Pair of 20"x30" Robinson Machine Company. Reversible 1st motion single drum hoisting engine. C. R. Welsh—overwinding device.
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- 1-18"x18" Erie double. Automatic Cut-off with 78"x30"—11 Groove 1 1/2" Rope Pulley.
- 1-Pair J. S. Mundy 7"x12".

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- 2-Corliss Horizontal Steam Engines 30"x48" each. Right and left hand.

**Steam Driven Generator Sets**

- 3-Morgan Gardner—100 K.W., 250 Volts, 400 Amp. 575 R.P.M. belt driven by right and left hand 17"x18" Skinner engines.
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- 1-Morgan Gardner—150 K.W., 250 Volts, 600 Amp., 550 R.P.M., belt driven by Skinner Automatic 18"x19".
- 2-Morgan Gardner—150 K.W., 250 Volts, 600 Amp., 550 R.P.M., belt driven by 18"x18" Ball Engines.
- 1-Morgan Gardner—100 K.W., 250 Volts, 400 Amp., 575 R.P.M., belt driven by Russell 18"x18".

**Pump**

- 1-Janesville—L.P. Cylinder 12", H.P. Cylinder 36", Stroke 12".

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- 1-Mesta Machine Co. Compound low pressure Air Compressor. Bore of Cylinder L.P. Steam 36". Bore of Cylinder L.P. Air 34". Bore of Cylinder H.P. Steam 22". Bore of Cylinder H.P. Air 26". Stroke 46". R.P.M. 90, Pressure 100 lbs. Corliss Valve type.
- 1-Ingersoll-Rand Co. low pressure Imperial type No. 10 Cross Compound air compressor. Bore of Cylinder L.P. Steam 34". Bore of Cylinder L.P. Air 34". Bore of Cylinder H.P. Steam 26". Bore of Cylinder H.P. Air 18". Stroke 36". R.P.M. 100, Pressure 100 lbs. Corliss Valve type.

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Three 8"x10" Gould Fig. 1009, Triplex Pumps, 360 gallons, 160 lbs. pressure, arranged for motor or belt drive. Used less than one month, excellent condition, specially priced. One Hundred Other Pumps of Every Type.

Send for our December list of the largest stock in the United States of slightly used and thoroughly overhauled MACHINE TOOLS, POWER, ELECTRICAL AND CONTRACTORS' EQUIPMENT.

Satisfaction Guaranteed or Money Refunded.

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Established 1900.

**Butt Strapped BOILERS**

H.R.T. and Portable. 100 to 250 H.P., high Insurance allowance, all regular fittings special low prices.

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Fidelity Building Syracuse, N. Y.

**Red and Buff Dry Pressed Brick,  
Common Building Brick**

**GEORGIA-CAROLINA BRICK CO.**

HOWARD H. STAFFORD, Pres.

AUGUSTA, GA.

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Large Stock, All Sizes  
Threaded and Coupled  
Mill Lengths  
Pipe Cut to Sketch

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Large quantity Pipe, with threads and couplings, used in Government plant a short time.

Rods—100 tons 7/8" Round Rods, 14' to 22' lengths.

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**PIPE**

**PIPE**

**PIPE**

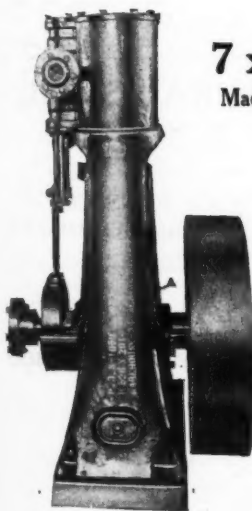
**FOR SALE**

15 miles 8" 26 pound line pipe 60c. foot; 5 miles 6" line pipe 40c. foot; 300,000 feet 1 1/2" pipe 4c. foot; all f.o.b. cars Beaumont, Texas.

**BROOKS SUPPLY COMPANY**

Beaumont, Texas

**New Blower Engines**



**7 x 7—10 H. P.**

Made by American Blower Co.

**\$ 100 Each**

**F. O. B. Pittsburgh**

**CONTRACTORS MACHINERY  
& SUPPLY COMPANY**

318 Penn Ave.

Pittsburgh, Pa.

**BUY IT FROM THE NAVY**

On Friday, January 5, 1923

**PAINTS AND INGREDIENTS  
CEMENTS AND FILLERS  
RED AND YELLOW MERCURIC OXIDE**

**71 lots, consisting of:**

Section "A," lots 1-28.  
Mercuric Oxide, Mixed Paints, Enamels, Stain, Varnish, Banana Oil, and Paint Removers.

Section "B," lots 29-40.  
Colors, ground in Oil and Japan.

Section "C," lots 41-52.  
Asphalt, Dry Colors, and Cold Water Paint.

Section "D," lots 53-71.  
Naphtha, Wood Preserver, Glue, Engravers' Enamel Iron Filler and Cements, Belt Dressing, Linoleum and Plumbers' Cements.

Write or wire for descriptive catalogue No. 155-B, giving detailed quantities and locations, together with terms of sale, to any of the following, who will also arrange for inspection:

**Supply Officer at Navy Yards:**

Boston, Mass. Philadelphia, Pa. Mare Island, Calif.  
Norfolk, Va. New York, N. Y. Puget Sound, Wash.  
Naval Training Station, Great Lakes, Ill.  
Board of Survey, Appraisal & Sale, Navy Supply Depot, S. Brooklyn, N. Y.

Bids will be considered on any lot, or lots. Bids should be plainly marked, addressed and actually delivered to the undersigned, prior to 11:00 A.M., January 5, 1923, where they will be publicly opened at the time designated.

**U. S. NAVY CENTRAL SALES OFFICE**

Navy Yard

Washington, D. C.

**BUY IT FROM THE NAVY****By sealed bids, opening as follows:**

On Jan. 4th, 1923,

Cat. No. 158-B,

**PIPE FITTINGS**

In 114 lots, consisting of approximately:

1,291,917—Bushings	89,839—Bends	2,129—Bosses
1,169,774—Couplings	56,200—Clips	330,980—Caps
1,304,569—Elbows	67,115—Clamps	179,081—Cocks
225—Cesspools	114—Crosses	

These fittings are of various styles, and patterns; they are made in Iron, Brass, Copper and Composition, and range in size from 1/4 to 6 inches, however the majority are under 2 1/2 inches.

Catalogues on other pipe fittings to follow shortly.

Write or wire for Cat. No. 158-B, giving full description, sizes, locations and terms of sale, to any Supply Officer.

On Jan. 9th, 1923,

Cat. No. 154-B,

**SHIP CHANDLERY SUPPLIES**

In 60 lots, consisting of approximately:

2,020—Motor Boat Bells, 9 3/4" diam.
23,960—Boat Fenders (cork and rope)
101,671—Sounding Leads, 5-80 lbs.
540—Jacks, capacity 7-100 tons.
2,121—Wooden Masts, 14-37 ft. long
15,383—Straight Oars, 8-18 ft. long
1,077 Blacksmiths' Anvils (25-300 lbs.)

Write or wire for Cat. No. 154-B, giving full description, sizes, locations and terms of sale, to any Supply Officer.

On Jan. 10th, 1923,

Cat. No. 160-B,

**COALING BUCKETS**

In 5 lots, consisting of approximately:

30 Clam-shell Buckets, Hayward class "E"  
Capacity 1 & 1 5/8 cu. yds.

3 Clam-shell Buckets, Mfg. by Williams  
Capacity all 0.8 cu. yds.

3 Clam-shell Buckets, Orton & Steinbrenner, Type "V"  
Capacity all 1 1/4 cu. yds.

30 Clam-shell Buckets, Meade Morrison Type "BL"  
Capacity all 1 1/5 cu. yds.

These coaling buckets are all located at the Navy Yard, Norfolk, Va.

Write or wire for Cat. No. 160-B, giving full description, sizes and terms of sale, to any Supply Officer.

Prospective purchasers are invited to communicate with the undersigned or any of the following Supply Officers, who will furnish any or all of the catalogues and also arrange for inspection of materials.

**Supply Officers at Navy Yards:**

- |   |                         |
|---|-------------------------|
| (1) Boston, Mass.   | (4) New York, N. Y.     |
| (2) Norfolk, Va.  | (5) Mare Island, Calif. |
| (3) Philadelphia, Pa.   | (6) Puget Sound, Wash.  |
| (7) Naval Training Station, Great Lakes, Ill.                                 |                         |
| (8) Board of Survey, Appraisal & Sales, Navy Supply Depot, S. Brooklyn, N. Y. |                         |

Bids on all of the above sales should be plainly marked, addressed to, and must be actually delivered to the undersigned prior to 11:00 A.M., on the date of opening, where they will be publicly opened at the time designated.

**U. S. NAVY CENTRAL SALES OFFICE**

Navy Yard

Washington, D. C.

**WOOD WORKING MACHINERY**

Band Saw, 36" Fay & Egan No. 50 Special.  
Boring Machine, single spindle, horizontal Fay & Egan.  
Glue Spreader 38" double roll, Francis.  
Jig Saw, self contained, Colloday.  
Jointers 20" Porter type C., round head.  
Jointers 20" Crescent, round head.  
Jointers 16" L. Power & Co. round head.  
Jointer 12" L. Power & Co. round head.  
Lathe, Waymoth No. 1 Variety.  
Lathe, handle, No. 1 Ober.  
Matcher, box board, power feed, S. A. Woods.  
Moulder 7" four side, L. Power & Co.  
Mortisers, vertical plunger, American and Levi Hous-

ton.  
Planer 26x12" double, endless bed L. Power & Co.  
Planer 32x7" single, L. Power & Co.  
Planer 26x6" single Egan.  
Planer 24x6" single, L. Power & Co.  
Sander 42" triple drum, Royal "Invincible".  
Sander, Moulding No. 1 Pioneer.  
Self-feed Band Rip Saw No. 180 Fay & Egan.  
Self-feed Band Rip Saw No. 202 Fay & Egan.  
Self-feed circular Rip Saw, L. Power & Co.  
Saw table, carriage cut-off No. 198 Fay & Egan.  
Saw table, automatic cut-off, No. 343-A H. B. Smith.  
Saw table, Crescent No. 1.  
Saw table, Oliver Universal.  
Saw table, double cut-off No. 2 Beach.  
Saw table, wood top, John A. White.  
Shapers, double spindle, Berlin & American.  
Shapers, single spindle, advance & Shimer.  
Swing Saws, American & Sidney.  
Stair routing machine, no table.

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NEW AND SECOND-HAND

**MACHINE TOOLS****HENRY PRENTISS & CO.**

Incorporated

149 Broadway

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Warehouse: Jersey City

**NEW STRUCTURAL STEEL**

200 Tons (4700 Pieces) 5", 9 3/4" lb. I-Beams 9' 0".

To complete shipments from this point.

\$22.00 Net Ton f.o.b. New Cumberland, Pa.

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4501 Richmond St.

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- 1—4x16' Tube Mill.
- 2—6x60' Rotary Dryers.
- 1—6x6x12' Steel Hopper, double spout.
- 1—5'x3' Single Drum Hoist.
- 2—No. 3 Williams Mills
- 2—15'x35' Steel Storage Tanks.
- 1—9'x15' Round Steel Hopper with legs.
- 9—1 1/2 yard, 36" Gauge, Koppel all steel cars.
- 3—15 H.P. General Electric Motors.
- 1—40 H.P. General Electric Motor.
- 1—Sturtevant No. 2 Duplex Ring Roll Mill.
- Steel Trusses and Columns.
- 10—Acre Manufacturing Site with R.R. Siding in property.

**ENGINEERING SALES COMPANY**

Nashville, Tenn.

**USED EQUIPMENT FOR SALE  
IMMEDIATE DELIVERY****ROCK CRUSHERS**

- 1—No. 5 Austin Gyrotory Crusher, equipped with smooth manganese head and concaves. In excellent condition, together with 24 ft. elevator. Located at Gaffney, S. C.
- 1—No. 4 Aurora Jaw Rock Crusher, equipped with manganese dies, located at Spartanburg, S. C.
- 1—No. 4 Champion Jaw Rock Crusher, located at Spartanburg, S. C. In fair shape.

**CONCRETE MIXERS**

- 1—31 ft. belt driven Smith Mixer, with extra drum, located at Spartanburg, S. C. In good condition.
- 1—10 ft. direct connected to vertical steam engine, hand dump. In good running order. Located at Spartanburg, S. C.
- 1—10 ft. direct connected to vertical steam engine, hand dump. In good running order. Located at Spartanburg, S. C.
- 1—21 ft. (No. 17) Chicago Improved Cube Concrete Mixer, direct connected to steam engine, power dump. In fair shape. Located at Spartanburg, S. C.
- 1—No. 5 Ausco 10 ft. Concrete Mixer, direct connected to 4 H.P. Novo Gasoline Engine. In good running order. Located at Spartanburg, S. C.
- 1—No. 5, 10 ft. "Little Wonder" Concrete Mixer, 4 H.P. Gasoline Engine, power loader. In good running order. Located at Spartanburg, S. C.

Also other equipment not listed

**WILLARD, BOGGS & CO.**  
Rex Theatre Bldg., SPARTANBURG, S. C.

**WATER TUBE BOILERS  
250 to 1000 H. P.****Immediate Delivery!**

New Water Tube Boilers, built for pressures of 200 lbs. and 225 lbs. ready for immediate delivery from Chicago, Dumont, New Jersey, opposite New York City, or Slidell, Louisiana, near New Orleans.

Our low prices present a saving of from 25% to 50%. We will take in your old equipment on a liberal exchange basis.

Write for our new catalog fully describing our boilers; your copy will be mailed on request.

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CHICAGO

**Burners, Tanks, Steel Lockers**

All sizes of Hauck Burners and Tanks, used.  
212—Steel Lockers, used.

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NEW ORLEANS, LA.

**EXCITERS**

- 2—G.E. 100 K.W. Curtis Turbo exciters. Turbine 3600 R.P.M., 75-150 lbs. pressure, Form C non-condensing Generator compound wound, type R.C.-17, Form A, 800 Amp., 125 volts D.C., 1200 R.P.M.

- 1—G.E. 75 K.W. Motor driven exciter. Motor 115 H.P. 25 Amp., 3 phase, 60 cycle Generator compound, wound, Form A, Type—RC-16, 600 Amp., 125 volts D.C., 1200 R.P.M.

Practically new condition. Complete specifications sent upon request.

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JACKSONVILLE, TENNESSEE

**COMPLETE  
MINERAL GRINDING EQUIPMENT  
FOR SALE**

8-42" Emery Mills, 2-Jaw Crushers, 3-Bolting Reels, 1-Sturtevant Roller Mill, 2-Steam Engines, 1-Boiler

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295 Oraton St., Newark, N. J.  
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**RAILROAD AND CONTRACTORS'  
EQUIPMENT****STEAM SHOVEL  
FOR SALE**

MARION model 60, 3-yard dipper, full M.C.B. Fine condition.

**CARL DUNNING SUPPLY CO.**  
INDIANAPOLIS, IND.

**RAILROAD and CONSTRUCTION  
EQUIPMENT****IMMEDIATE DELIVERY**

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**SHOVEL and EQUIPMENT**

Thew Electric on railway trucks, 1 1/4-yd. dipper. Has been used very little and has had excellent care, consequently is as good as new. Also dump cars, conveyors and first-class brick making machinery. Prices reasonable.

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OSHKOSH, WISCONSIN

**LOCOMOTIVE CRANES**

- 2-20 ton 8 wheel Industrial.
- 1-10 ton Derrick Car
- 1-Byers Auto-crane.

**LOCOMOTIVES**

- 1-16x24 Standard Gauge Baldwin Switcher, with tender.
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- 2-10x16-36" gauge Saddle Tank Porter.
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- 2-7x10 D.C., D.D. Lidgerwood with boiler.
- 2-7x10 D.C., D.D. Lidgerwood, without boiler.
- 2-10x12 D.C., D.D. Lidgerwood, without boiler.
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- 2-8 1/4 x12 D.C., S.D. Lambert, without boiler.

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12 & 10 ton 3 wheel, Steam & Gas.

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All bargain prices.

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Locomotive Cranes  
Concrete Mixers  
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- 4—100,000 cap. flat bottom gondolas.
- 1—140,000 cap. all steel flat car.
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- 2—10x16 cyl. 38 in. ga. saddle tanks.

WALTER A. ZELNICKER SUPPLY CO., ST. LOUIS  
Rails, Track Material, Steam Shovels, Tanks.

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Complete stock 16 lb. to 100 lb.  
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Prompt shipment

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8 Standard Gauge Flat Cars, good serviceable second-hand condition. Also 4 Standard Gauge Locomotives and a large tonnage of all sections of relaying rails as well as new rails. Wire or write for prices.

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A large stock of good relayers in weights from 30 lb. to 90 lb. per yard for shipment as quickly as cars are placed for loading. Can ship complete with necessary splice bars, angle bars, bolts and spikes.

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650 Tons 56-Lb. Rail  
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Pavers, mixers, rollers, shovels, cranes, crushers, etc.

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Commercial Trust Bldg. Philadelphia, Pa.

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BIRMINGHAM, ALABAMA

Manufacturers

FROGS, SWITCHES, CROSSINGS, Etc.

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Manufacturers of

Frogs, Switches, Crossings, Rail Braces, etc.

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Manufacturers of Balkwill Articulated Cast Manganese Crossings

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**ROAD ROLLERS**

2 Iroquois, 2½-ton Tandem. 1 Iroquois, 7-ton Tandem.  
4 Pioneer, 5-ton Tandem.

**STEAM SHOVEL**

1 Thew No. 6 Traction, 5/8 yd. dipper.

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4501 Richmond St., PHILADELPHIA, PA.

**RELAYING RAILS**

**FOR IMMEDIATE SHIPMENT**

75 tons 30 lb., Virginia  
400 tons 40 lb., Virginia  
700 tons 40 lb., North Carolina  
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Miscellaneous Track Material, Iron and Steel Scrap.

JOHN T. HILL & COMPANY, Inc.

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**RELAYING RAILS**

15 miles 40 lb. section, North Carolina delivery  
3 miles 25 lb. section, North Carolina delivery  
4 miles 56 lb. section, South Carolina delivery  
4 miles 56 lb. section, Virginia delivery  
3 miles 45 lb. section, North Carolina delivery  
All in first-class condition. Ready for prompt shipment. Also other weights. Write us for prices.

H. M. FOSTER COMPANY

Continental Building, Baltimore, Md.

Locomotives, Steam Shovels, Locomotive Cranes, Cars,  
New and Relaying Rail

**WE HAVE FOR SALE**

40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.  
10 Standard and 36" Gauge Geared Locomotives, all weights.  
15 Steam Shovels and Locomotive Cranes of different types and sizes.  
3000 tons Relaying Rails, all sizes, on our Birmingham yards.  
100 sets 35 and 40-lb. Frogs and Switches; good as new.  
Birmingham Rail & Locomotive Co. BIRMINGHAM, ALA.

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Logging Equipment, Track Materials and Supplies

LOCOMOTIVES, CARS, STEAM SHOVELS and CRANES

Dickson Building - - - NORFOLK, VA.

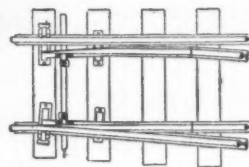
**FLAT CARS BOX CARS**

300 flat cars, standard gauge, 36 to 40 ft. capacity 40,000, 50,000, 60,000 and 80,000 lbs.  
35 gondola cars 60,000 and 80,000 lbs. capacity 25' 7" to 36' long, one and four board high, flat and hopper bottom.  
15 box cars, standard gauge, 36 ft., 50,000 lbs. capacity.  
All equipped with air and hand brakes.

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NOISE  
with  
FACT**



SPLIT SWITCH

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We wonder how many advertisers can back up their claims with facts? "CINCINNATI" can. Fourteen years of track equipment manufacturing, holding always to a high standard of quality, allows us to claim that we have rendered and do render real service.

*Our engineers are ready to help you.*

**The "Cincinnati" Frog & Switch Co.**

Cincinnati, Ohio

**FOR SALE or RENT**

**Steam Shovels**

- 1—Type "B" Erie, shop No. 914.
- 1—Model 31 Marion, 1-yd. dipper, shop No. 3066.
- 3—Model 28 Marions, 5/8 yd. dipper, shop Nos. 3134, 3137 and 3229.
- 4—Model 60 Marions, 2½ yard dipper, Nos. 1195, 1999, 2059 and 2372.
- 1—Model 70 Marion, 2½ yard dipper, No. 2693.

**Locomotive Cranes**

- 1—15-ton, 8-wheel Brown Hoist Bucket Operating, 45' boom.
- 1—3-5 ton, 4-wheel Brown Hoist, 26' boom, bucket-operating.

**12-yard Standard Gauge Cars**

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**36" Gauge Saddle Tank Locomotives**

- 4—10x16" H. K. Porter 18-ton.
- 2— 7x12" Davenport 10-ton.
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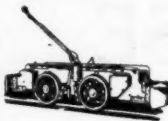
Railroad Ditchers, Locomotive Cranes, Other Heavy Equipment.

**H. Kleinhans Co.**

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A Type for  
every project

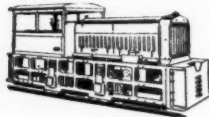
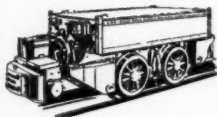


A Size for  
every job

## LOCOMOTIVES

Gasoline  
Storage Battery  
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The Thousands of Whitcomb Locomotives  
in successful operation speaks for the  
thorouness of their design and construction.

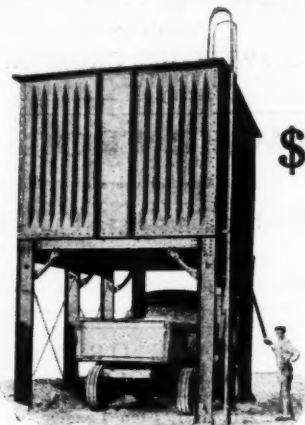


Write for Bulletins covering the Type you are  
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**Geo. D. Whitcomb Company**  
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## STEEL BINS

For Sand, Gravel, Cinders, Coal, etc.



**\$695**

Capacity  
70 Cu. Yds.

The steel bins we illustrate herewith measure 10' x 12' x 15' and have a capacity of 70 cubic yards. Height over all 21'. Truck clearance is 10' as illustrated. These bins are particularly adapted for Road Contractors, Material Yards and Coal Yards. The photograph indicates what a great time and labor saver they are, as trucks can be loaded in a very short time and eliminates double handling. Their portability is an added feature as they are all bolted together in the field, no hot rivets being required. They are far superior to wood which soon decays. Price f. o. b. Chicago \$695.

We also manufacture a bin with a hopper bottom having a capacity of 80 cubic yards with one opening 15' square. Essentially the same construction as the flat bottom bin. Height over all 26 feet. Size of box 12 feet square; hopper 12 feet at widest measurement and 2 feet at smallest; height 7 feet. Price \$795.00 f.o.b. Chicago.

**HARRIS BROTHERS CO.**  
1349 West 35th Street, Chicago, Ill.

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A favorite for every purpose  
for over a Half  
Century.



**H. K. PORTER COMPANY**  
Pittsburgh, Penna.

## LOCOMOTIVES

## INDUSTRIAL CAR EQUIPMENT



**THE ATLAS CAR & MANUFACTURING CO.**  
Cleveland, Ohio

"MINSTER"  
Gasoline Locomotives  
Industrial Track  
&  
Equipment  
Frog and Switch Work  
Welding Steel

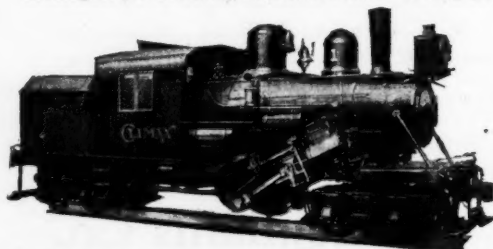
**P. W. WOOD**

RAILWAY SUPPLIES  
Industrial Equipment

"BUDA"  
Motor, Hand & Push  
Cars  
Jacks  
Track Tools  
Crossing Gates  
Rail

822 PERDIDO ST. NEW ORLEANS, LA.

We are building Locomotives from  
12 to 90 Tons for all classes of service  
Investigate for Switching Industrial Plants—Catalog K.



**CLIMAX MFG. CO.** Corry, Pa., U. S. A.  
SOUTHERN AGENTS: Higgins & Wormington, New Orleans

MINSTER  
INDUSTRIAL  
LOCOMOTIVES



THERE IS  
A SIZE FOR  
YOUR PURPOSE

The INDUSTRIAL EQUIPMENT COMPANY  
OHIO STREET, MINSTER, OHIO, U. S. A.  
EASTERN and EXPORT DEPT. THE HERBERT CRAPSTER CO., Inc.  
No. 1 Madison Avenue, NEW YORK CITY

## The Columbus McKinnon Chain Company

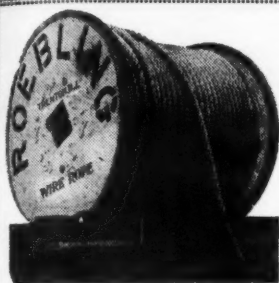
Columbus, Ohio



Manufacturers of all kinds of Chain

Southern Offices:  
311 Wells Fargo Bldg., New Orleans, La.  
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## Wire Rope and Wire

*Used Successfully  
Since 1840*

**John A. Roebling's Sons Company**  
TRENTON, N. J.

BRANCHES:  
New York    Boston    Chicago    Philadelphia    Pittsburgh    Cleveland  
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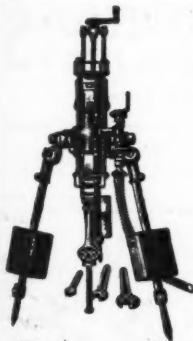
### KEATOR SAFETY CLIP

Guaranteed to take the place of any four common clips. Will not cut the wire rope or permit it to slip.

*Sample furnished on request*

**MAL-GRA CASTINGS COMPANY**

*Manufacturers of high grade malleable castings*  
CAMBRIDGE CITY, INDIANA



### Send for Circular on the Wood "Brownie Drill"

A tripod drill made to be handled by one man. The lightest drill made. Weighs only 83 lbs. unmounted. Drills holes to 7 ft.

Made by

**WOOD DRILL WORKS**

30-36 Dale Ave. - PATERSON, N. J.

Hammer Drills and Piston Drills

### Blue Book of Southern Progress

A rich and stimulating volume it is, valuable to the investor, of daily use to the business man, and exceedingly helpful to student and educator. In thoughtfully compiled records like this is much of the meat of history; and truly may it be said of this one that it is a book, not only to be tasted, but to be "chewed, swallowed and digested."

—Atlanta Journal.

[Single Copies 50c]

**Manufacturers Record, Baltimore, Md.**



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Illustrated Catalogue*

## AMERICAN STEEL & WIRE COMPANY

Complete stocks of Bright and Galvanized Ropes, Wire Strand and Electrical Wires carried at our Warehouses.

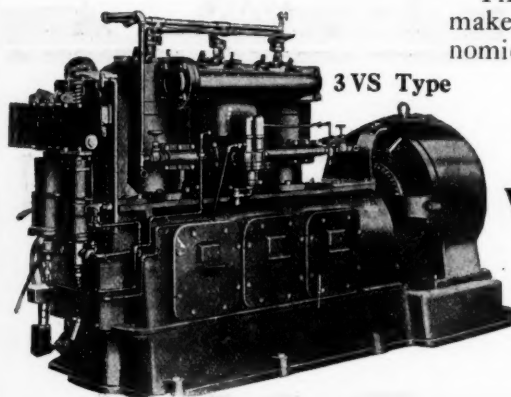
**BALTIMORE, MD.**

Sales Office and Warehouse:  
32 South Charles Street

# WESTINGHOUSE — NATIONAL AIR COMPRESSORS



**Bearings Can't  
Run Dry**



ALL Westinghouse-National Compressors equipped with the distinctive "HP" control are "fool-proof" in the matter of lubrication. Bearings *can't* run dry. When the oil in the crankcase drops below a certain level the automatic control prevents further operation of the compressor until the oil supply is replenished.

This is only one of many features which combine to make Westinghouse-National compressors the most economical and serviceable that can be bought.

Westinghouse-National Air Compressors are furnished in all sizes from 11 to 550 cu. ft. piston displacement; stationary and portable types; A.C. or D.C. motor. Especially adapted for factories, foundries, garages, office buildings, railway shops and yards, printing plants, etc. Literature on request.

**Westinghouse Traction Brake Company**  
General Offices and Works: Wilmerding, Pa.

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**BYERS**

**BYERS AUTO CRANE**  
All steel construction. Any mounting. Any power. All standard attachments. 800 in use today proves Byers' popularity in the smaller crane field.  
**THE BYERS MACHINE COMPANY**  
240 Sycamore Street, RAVENNA, OHIO



## AIR COMPRESSORS CENTRIFUGAL PUMPS

Literature on Request

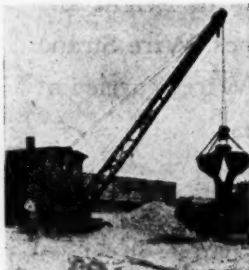
Pennsylvania Pump & Compressor Company  
EASTON, PENNA.

**"Marions" Speed Up  
Heavy Excavating  
Work**

**The Marion Steam Shovel Co.**  
Marion, Ohio, U. S. A.



Cranes built to successfully handle Materials under all conditions—that's—



**O. S. Dependable  
Cranes  
Buckets**

Capacities  
7-to-60-Tons.

**Orton & Steinbrenner Co.**  
Shops  
Huntington, Indiana.

Offices: 608 So. Dearborn St., Chicago.



The Northwest Crane  
"goes anywhere a crane  
can go, does anything  
a crane can do."

**A complete line  
proved in service.**

Patented crawler base, provides unequalled mobility; operated by one man.  
**Cranes**—with clamshell bucket or grappling hooks.  
**Draglines**—for drainage jobs, excavating, grading.  
**Shovels**—with only one motor—gas or electric.

**NORTHWEST ENGINEERING CO.**  
Chicago, Illinois

**NORTHWEST CRANE  
DRAGLINE  
SHOVEL**

# Ingersoll-Rand

## The Regulation of Class "PRE" Compressors

There is no place where the compressor's regulation is of greater importance than on large, direct-connected motor-driven units. Such machines necessarily operate at constant speed, and the successful performance of the motor, as well as the power consumed at various loads, depends upon the method of unloading.

Not only do Ingersoll-Rand Class "PRE" compressors operate at maximum full load efficiency, but their patented 5-step Clearance Control assures unusual efficiencies at  $\frac{3}{4}$ ,  $\frac{1}{2}$ ,  $\frac{1}{4}$  and no loads.

There are many other "PRE" features which will be of interest if you are considering the installation of an air compressor having a capacity greater than 600 cubic feet.

Let our engineers tell you about the advantages of Class "PRE" compressors with direct-connected synchronous motors. We would also be glad to send you copies of our Bulletin No. 3126.

### Ingersoll-Rand Company

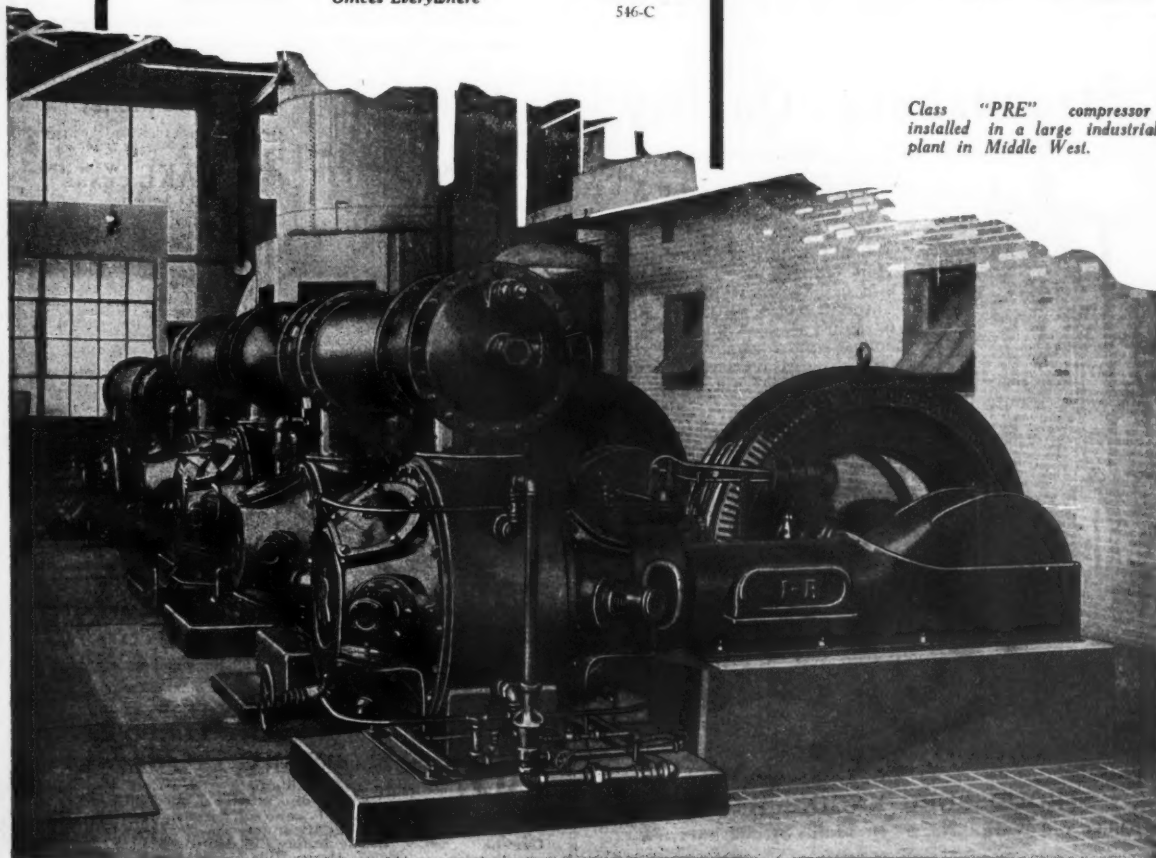
General Offices: 11 Broadway, New York

Offices Everywhere

546-C



Class "PRE" compressor installed in a large industrial plant in Middle West.





# LIDGERWOOD

## HOISTS

### STEAM-ELECTRIC-GASOLINE



ELECTRIC DERRICK HOIST AND SWINGER  
for grab bucket work

We build hoists for  
every type of work.  
Built with **Strength**  
and **Speed**.

Philadelphia, Pittsburgh, Chicago, Los Angeles  
Seattle, Cleveland, Detroit  
Woodward Wight & Co., Ltd., New Orleans

**LIDGERWOOD MANUFACTURING CO.**  
96 LIBERTY STREET NEW YORK

# NATIONAL

Steam — Electric — Gasoline

## HOISTS DERRICKS

ALSO  
**PILE HAMMERS**

Send for Catalog

**NATIONAL HOISTING ENGINE CO.**  
Bergen Street Harrison, N. J.

# MUNDY

TRADE MARK  
ESTABLISHED 1869

DERRICKS GUY AND STIFF LEG ELECTRIC AND STEAM HOISTS



**J. S. MUNDY HOISTING ENGINE CO.**  
Newark, New Jersey

## Stroudsburg = Quality

We Standardized the 125 Lbs. Pressure Hoisting Engine

### YOU CAN DEPEND ON A STROUDSBURG

When you put a Stroudsburg Hoisting Engine on the job, you can feel certain that the job will be done faster and without the usual "break-down" and "tie-up" for repairs, necessary with many other Engines.

"Built for the Man  
That Wants the Best"  
Built for every purpose

The  
Up-to-Date  
Contractor's  
Favorite



**STROUDSBURG ENGINE WORKS**  
Office and Works: No. 64 N. 3d St., Stroudsburg, Pa.

## Turn Waste Minutes Into Money

You can save time, labor and fuel on your derrick work by installing

### DAKE SWINGING GEARS

One lever starts, stops and reverses it, and when the throttle is closed the brake is automatically applied to the drum.

The boom is always under perfect control, and the load may be quickly and accurately spotted.

Swinging the boom without the use of the main hoisting engine saves fuel.

Send for catalog and full particulars.

**DAKE ENGINE COMPANY, GRAND HAVEN  
MICHIGAN**

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## CRANES EXCAVATORS LAND DREDGES

Walking, Track, Crawler  
and Floating Type

### BAY CITY DREDGE WORKS

2600 Center Ave. BAY CITY, MICH.



## A FLORY HOIST FOR EVERY PURPOSE

**S. FLORY MFG. CO., BANGOR, PA.**

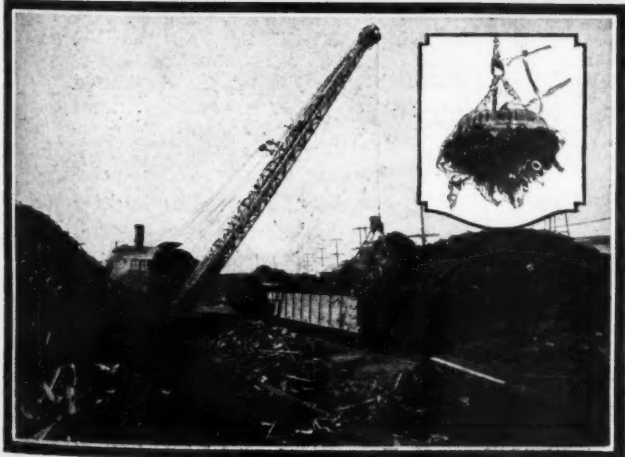
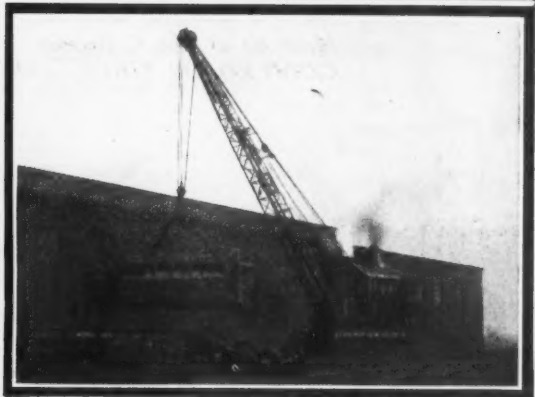
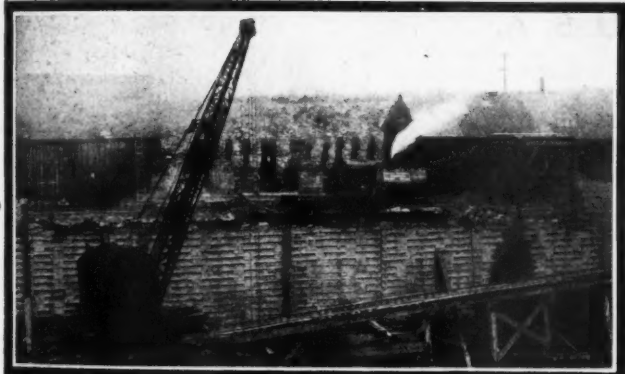
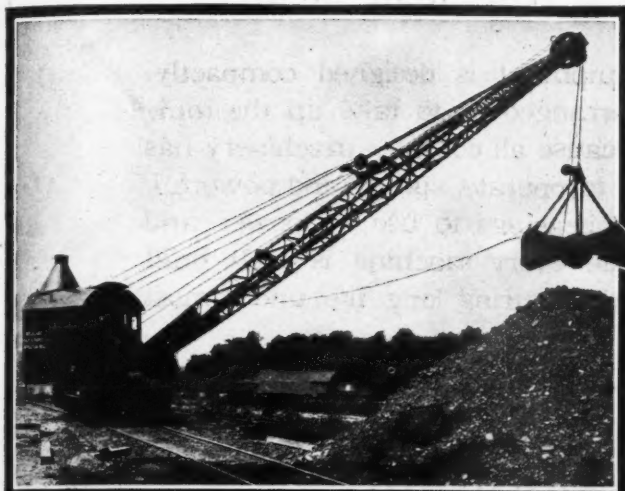
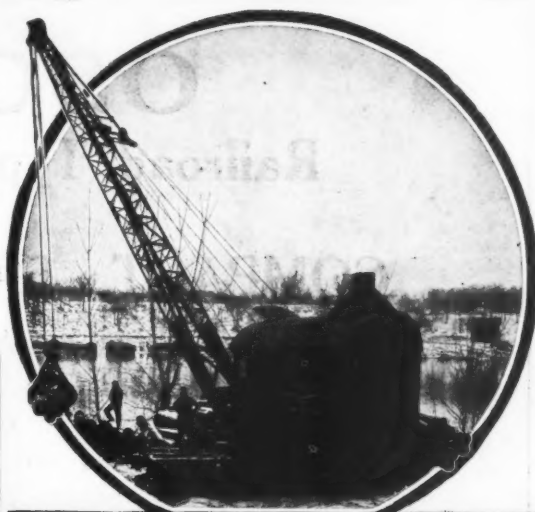
95 Liberty St., New York  
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Farquhar Machinery Co., Jacksonville Fla.  
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Catalog

# BROWNING USEFULNESS

**Y**OU will find Browning Cranes in action on the hardest jobs. They are designed and constructed for a wide range of uses and for long trouble-free performance on each job.



If solving your material-handling problem involves the use of a Browning Crane, if the Browning Crane will accomplish the work to better advantage than any other machine—just as it has for users all over the world, then and only then, do we desire to sell you. Write for the Browning Catalog and briefly describe your operations—we will gladly tell you possibilities for savings.

**THE BROWNING COMPANY**  
Cleveland, Ohio

# OSGOOD

## Railroad Type Steam Shovels

Are

### COMPACT, SIMPLE, DURABLE!

*What does such a statement mean?*

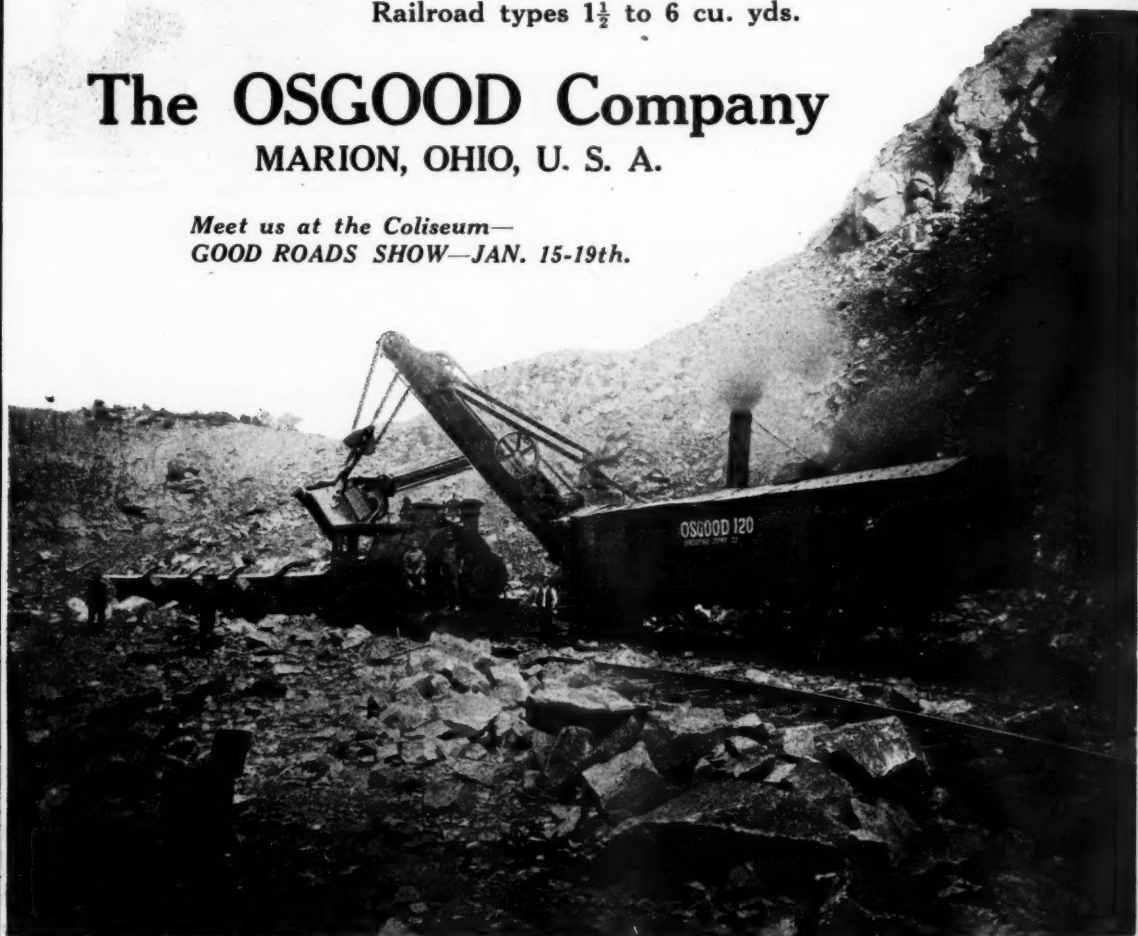
It means that Osgood equipment is designed compactly. Parts so constructed and arranged as to take up the minimum of space. Simple because all complex machinery has been eliminated, hence easy to operate, speedy and powerful. No unnecessary gearing or bearings to use up power and efficiency. Durable, because every machine is well built with a wide factor of strength, insuring long life under most severe usage.

Railroad types  $1\frac{1}{2}$  to 6 cu. yds.

## The OSGOOD Company

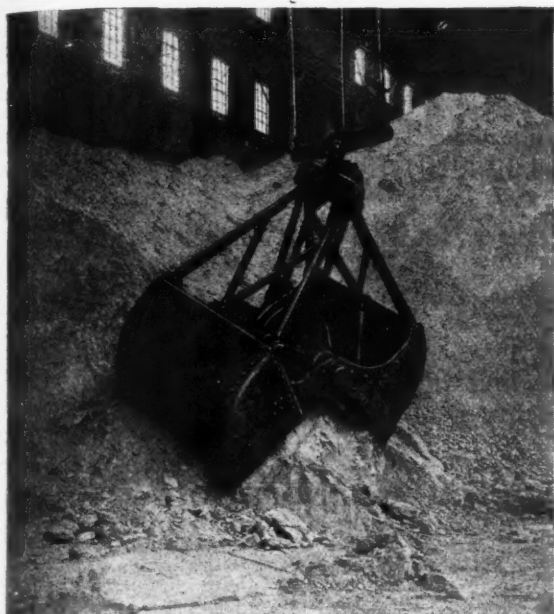
MARION, OHIO, U. S. A.

*Meet us at the Coliseum—  
GOOD ROADS SHOW—JAN. 15-19th.*





# Hayward Buckets



## Idle?—Not a Minute

That's one reason why a Hayward Bucket is a paying piece of equipment.

On to a coal handling job at car, barge, pile or boiler room. Then digging ashes from the pits. Through? No need to be. Perhaps there's some sand to be handled for the foundry. Again, there may be a car of ore or gravel to be unloaded. Put the Hayward on the job.

Hayward Clam Shell Buckets handle all bulk materials. Their hour after hour service for the power-plant and around the works is an economy feature of great advantage.

Actual installation photographs in Catalog 44 visualize the many time and labor economies that can be effected with Hayward Buckets in Power and Industrial Plants. You can have a copy for the asking.

THE HAYWARD COMPANY  
50-52 Church St., New York, N. Y.

Orange Peel  
Clam Shell



Drag Scraper  
Electric Motor

Trade HAYCO Mark  
2836.Y



Actual service under the most exacting conditions is better proof of QUALITY.

It may be HEAVY Traffic, EXTREME Heat, SEVERE Cold, or action of Salt Water—"WARRIOR" stands the gaff.

Its light color makes it very desirable for residences, garages, and stucco work.

## Gulf States Portland Cement Co.

Office and Mills

DEMOPOLIS, ALABAMA

SHIPMENTS BY THE WARRIOR RIVER ALSO

**S L A G**  
COPPER FURNACE  
FOR:-ROADS, CONCRETE, ETC.  
TENNESSEE COPPER COMPANY  
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"ENSLEY" and "ALABAMA CITY"  
**Basic SlaG**  
BIRMINGHAM SLAG COMPANY  
Birmingham, Ala.

**C. TURNER CO.**  
**MACHINERY**  
**CONTRACTORS EQUIPMENT**

JAMES BUILDING  
CHATTANOOGA, TENNESSEE

## Are You Making the Best of Your Opportunities as A Building Supply Dealer?

### ARE YOU HANDLING CLINCHFIELD?

CLINCHFIELD is the recognized standard of the South. Backed by a mill that for many years has supplied the largest contractors and engineers in the South.

CLINCHFIELD is manufactured from selected materials of the highest grade, thus assuring absolute uniformity of quality.

CLINCHFIELD has the contractors' preference. Make the best of your opportunities. Line up with a mill which will give you 100 per cent co-operation, service and quality at all times.

### Clinchfield Portland Cement Corporation

Office and Mills  
Kingsport, Tenn.

## CONCRETE FOR PERMANENCE

CONCRETE



PERMANENT

### MR. TAX-PAYER—YOU!

Do you want your county to spend YOUR good money on roads that will wear out before your bonded indebtedness is liquidated?

I SAY YOU DON'T.

What you want is a hard-surfaced road, with little cost for maintenance—a road that can be traveled in rain or snow, summer and winter. You want a PERMANENT road—that means CONCRETE!

Write for Literature—It's Free

**DIXIE PORTLAND CEMENT CO.**  
CHATTANOOGA, TENN.

### Southern States Portland Cement



We produce only one grade

**THE HIGHEST**

ALWAYS UNIFORM

**Southern States Portland Cement Co.**

Office and Mills—ROCKMART, GA.

### National Cement Company

Manufacturers of

### High Grade Portland Cement



**QUALITY and SERVICE**

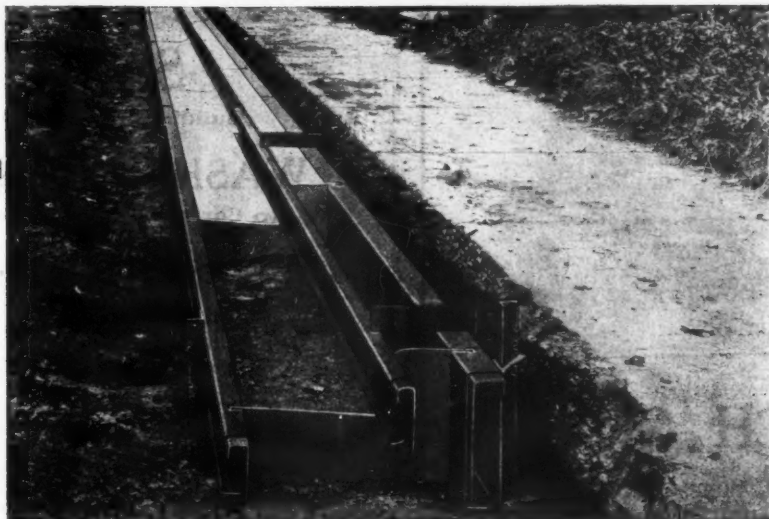
**Our Motto**

Sales Department

Empire Building - Birmingham, Ala.  
Plant

Ragland

Alabama



## An Amazing Story With Facts and Figures

This contractor's bid was \$29,800 or \$1,000 less than his nearest competitor—but he made money.

Our bulletin No. 30 "J" tells this story of actual costs on one mile of road where Heltzel Steel curb and gutter forms were used on one side and wood forms on the other side—a startling record of comparative expense no contractor can afford to overlook.



*Write for Bulletin No. 30 "J" today and get this tip for earning money on city work or just tear out this ad, jot your name in the margin and give the postman 2c. He'll mail it for you.*

**See Our Exhibit at The January  
Chicago Road Show.  
Booths 214 & 215.**

# THE HELTZEL STEEL FORM & IRON CO.

**WARREN, OHIO**

World's largest exclusive builders of steel forms for road, sidewalk, curb and gutter and all types of concrete construction, also tamping machines, Heltzel and Strike off Tamp, Heltzel Rotary Steel Float and other accessories.





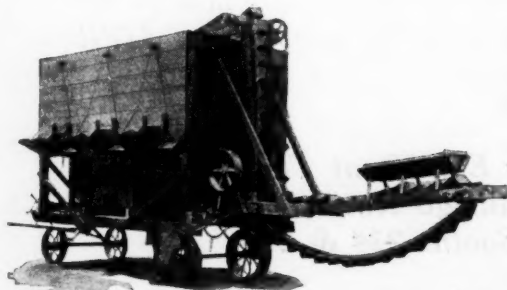
## SCRATCH GRAVEL

Priorities and transportation tie-ups resulting from strikes or other causes are nothing in the life of the owner of a Western Portable Screening Plant. In addition to the load off his mind he saves time, labor and expense.

The Western Screening Plant is complete to the last detail, including power. The bin has three compartments with a total capacity of about 25 tons, and the elevator will handle up to four or five hundred tons per day. The whole outfit is most substantially constructed and yet is so designed as to be readily portable.

In localities where there are enough of the larger stones to make it pay to crush them, a Western Portable Crushing and Screening Plant just fills the bill.

*Screening Plant Bulletin 21-M and Crusher Catalog 44-M will help you to solve your material problems. Write for one or both today.*



**The Austin-Western Road Machinery Co.  
Chicago, Ill.**

*"Everything from a Drag Scraper to a Road Roller."*

EXPORT DEPARTMENT  
ALLIED MACHINERY COMPANY OF AMERICA  
21 Chambers St. New York, U.S.A. Canada: Almaco New York

## SAND

Bank Building Concrete Paving

## WASHED GRAVEL

In Car, Scow and Barge Lots

## THE ARUNDEL CORPORATION

BALTIMORE, MD.

Office: PIER 2 PRATT STREET

Wharves: PIER 2 PRATT ST., AND FOOT OF FELL ST.

## SAND AND GRAVEL

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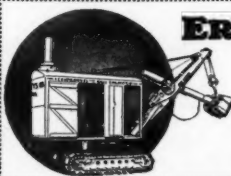
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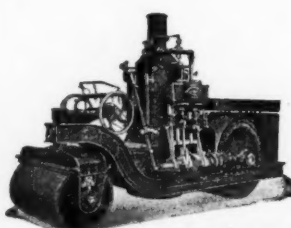


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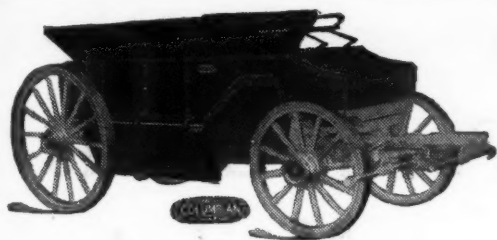
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**SPECIALLY DESIGNED  
FOR CONTRACTORS**

In our Susquehanna model we offer an exceptionally sturdy and well designed wagon of from 1½ to 3 yards capacity.

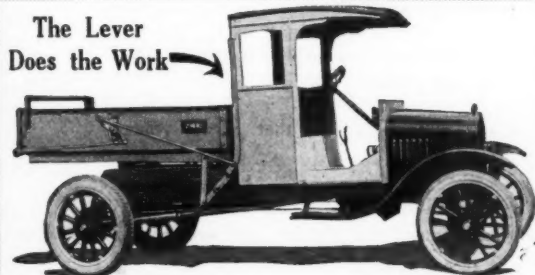
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Its light draft, large wheels and short turning radius, make it unusually desirable for road work.

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We build the Jennings Automatic Dump Body for Ford Ton and other makes of Ton Trucks. Send for circulars.



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The patented lever and tail gate are special Jennings Features.

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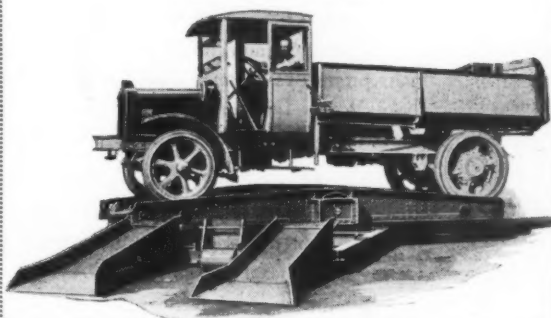
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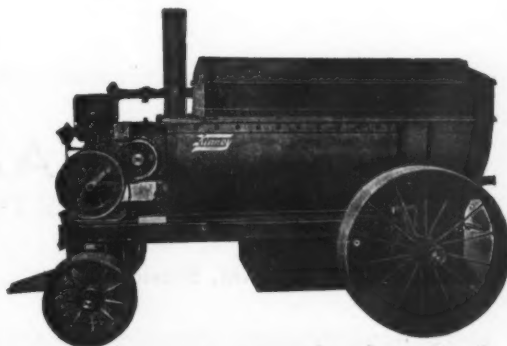
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No burning or coking of material. Pump, Piping, Hose, Nozzles Automatically Heated.

No Steam Required.



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Union Sulphur Co., The, New York, N. Y.

### BUCKETS.

Clam Shell.  
Blaw-Knox Co., Pittsburgh, Pa.  
Browning Co., Cleveland, Ohio.  
Halse Mfg. Co., Geo., New York, N. Y.  
Hayward Co., The, New York, N. Y.  
Orton & Steinbrenner Co., Chicago, Ill.

Dredging, Excavating, Sower, Etc.  
Halse Mfg. Co., Inc., Geo., New York, N. Y.  
Hayward Co., The, New York, N. Y.  
Marion Steam Shovel Co., Marion, O.  
Mouhgan Machine Co., Chicago, Ill.

### Orange Peel.

Hayward Co., The, New York, N. Y.  
Orton & Steinbrenner Co., Chicago, Ill.

### Ore Handlings.

Caldwell & Son Co., H. W., Chicago, Ill.  
Hayward Co., The, New York, N. Y.

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Foundation Co., The, New York, N. Y.  
Fraser, Brace & Co., New York.  
Robinson & Co., Dwight P., New York.  
Stone & Webster, Boston, Mass.  
White Engr. Corp., The, J. G., New York.  
Widmer Engineering Co., St. Louis, Mo.

### BUILDINGS.

Industrial.  
Belmont Iron Works, Philadelphia, Pa.  
Farris Bridge Co., Cumberland, Md.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Maryland Metal Building Co., Baltimore.

### Metal.

Maryland Metal Building Co., Baltimore.

### Portable, Steel.

Blaw-Knox Co., Pittsburgh, Pa.  
Maryland Metal Building Co., Baltimore.

### Portable, Wooden.

Minter Homes Co., Greenville, S. C.

### Pressed Steel.

Truscon Steel Co., Youngstown, O.

### BUILDING MATERIAL.

Minter Homes Co., Greenville, S. C.

### BUSHINGS. (Brass & Bronze.)

Mueller Metals Co., Port Huron, Mich.

### CABLES. (Copper Wire, Etc.)

Williamsport Wire Rope Co., Williamsport, Pa.

### CABLES AND WIRE. (Electric.)

American Steel & Wire Co., Chicago, Ill.  
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Mundy Hoisting Engine Co., J. S., Newark, N. J.  
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Atlas Car & Mfg. Co., Cleveland, Ohio.  
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Sherwood, E. C., New York, N. Y.  
Southern Iron & Equip. Co., Atlanta, Ga.  
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Liquids Despatch Line, Chicago, Ill.

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Bonney Supply Co., Inc., Rochester, N. Y.  
Byers Machine Company, Ravenna, O.  
Dow Co., The, Louisville, Ky.  
Halse Mfg. Co., Geo., New York, N. Y.  
Portable Mchry. Co., Passaic, N. J.

### CAR ROOFS. (Pressed Steel.)

Sharon Pressed Steel Co., Sharon, Pa.

### CAR WHEELS, AXLES AND TRUCKS.

Carnegie Steel Co., Pittsburgh, Pa.  
United Iron Works, Kansas City, Mo.

### CASTINGS.

Aluminum.  
Dixie Brass & Fdy. Co., Birmingham, Ala.

### Brass and Bronze.

Bethlehem Steel Co., Bethlehem, Pa.  
Covington Mach. Co., Inc., Covington, Va.  
Curtis Bay Copper & Iron Works, Inc., Baltimore, Md.  
Dixie Brass & Fdy. Co., Birmingham, Ala.  
More-Jones Brass & Metal Co., St. Louis.  
Mueller Metals Co., Port Huron, Mich.

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Caldwell & Co., E. R., Bradford, Pa.  
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Columbian Iron Wks., Chattanooga, Tenn.  
Covington Mach. Co., Inc., Covington, Va.  
Georgia Car & Loco. Co., Atlanta, Ga.  
Glamorgan Pipe & Fdy. Co., Lynchburg, Va.  
Hammond-Byrd Iron Co., Birm'ham, Ala.  
Murray Iron Works, Burlington, Ia.  
Nat'l Cast Iron Pipe Co., Birmingham.  
Roanoke Bridge & Iron Wks., Roanoke, Va.  
Sun Shipbuilding Co., Chester, Pa.  
U. S. Cast Iron Pipe & Fdy. Co., Burlington, N. J.  
Westbrook Elev. Mfg. Co., Danville, Pa.

### Malleable Iron and Steel.

Mal-Gra Cast. Co., Cambridge City, Ind.

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Salem Fdry. & Mch. Wks., Salem, Va.

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Bethlehem Steel Co., Bethlehem, Pa.  
Crucible Steel Castings Co., Lansdowne, Pa.  
Federal Steel Foundry Co., Chester, Pa.  
Ohio Steel Fdry. Co., The, Springfield, O.

### CEILING.

Berger Mfg. Co., The, Canton, Ohio.  
Canton Art Metal Co., Inc., Canton, O.  
Edwards Mfg. Co., The, Cincinnati, O.  
Intern'l Steel & Iron Co., Evansville, Ind.  
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Jointless Fire Brick Co., Chicago, Ill.  
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Churchfield Portland Cem. Corp., Kingsport, Tenn.  
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Gulf States Portland Cement Co., Demopolis, Ala.  
National Cement Co., Birmingham, Ala.  
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### CEMENT MACHINERY.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
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Columbus McKinnon Chain Co., The, Columbus, Ohio.  
Knoxville Iron Co., Knoxville, Tenn.

### Silent Drive.

Morse Chain Co., Ithaca, N. Y.

### Sprocket.

Chain Belt Co., Milwaukee, Wis.  
Columbus McKinnon Chain Co., The, Columbus, Ohio.  
Link-Belt Co., Philadelphia, Pa.  
Weller Mfg. Co., Chicago, Ill.

### CHAIRS. (Reinforcing Bars)

Concrete Steel Co., New York, N. Y.

### CHEMICALS.

Davison Chemical Co., Baltimore, Md.  
Du Pont de Nemours & Co., Inc., E. I. Wilmington, Del.

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Berkeley, W. N., Baltimore, Md.  
Froehling & Robertson, Richmond, Va.  
Hochstadter Laboratories, New York.  
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Pittsburgh Testing Lab., Pittsburgh, Pa.  
Wiley & Co., Inc., Baltimore, Md.

### Cement. (Portland.)

Berkeley, W. N., Baltimore, Md.  
Froehling & Robertson, Richmond, Va.  
Hunt & Co., Robert W., Chicago, Ill.  
Pittsburgh Testing Lab., Pittsburgh, Pa.

### Coal and Coke.

Berkeley, W. N., Baltimore, Md.  
Hochstadter Laboratories, New York.  
Hunt & Co., Robert W., Chicago, Ill.  
Pittsburgh Testing Lab., Pittsburgh, Pa.  
Wiley & Co., Inc., Baltimore, Md.

### Consulting.

Froehling & Robertson, Richmond, Va.  
Hochstadter Laboratories, New York.  
Wiley & Co., Inc., Baltimore, Md.

### Cottonseed.

Wiley & Co., Inc., Baltimore, Md.

### Fertilizers.

Froehling & Robertson, Richmond, Va.  
Wiley & Co., Inc., Baltimore, Md.

### Industrial.

Berkeley, W. N., Baltimore, Md.  
Hochstadter Laboratories, New York.

### Minerals and Ores.

Pittsburgh Testing Lab., Pittsburgh, Pa.  
Wiley & Co., Inc., Baltimore, Md.

### Oil.

Hochstadter Laboratories, New York.  
Wiley & Co., Inc., Baltimore, Md.

### Steel.

Berkeley, W. N., Baltimore, Md.  
Hunt & Co., Robert W., Chicago, Ill.  
Pittsburgh Testing Lab., Pittsburgh, Pa.

### Water.

Berkeley, W. N., Baltimore, Md.  
Du Pont Chemical Co., Wilmington, Del.  
Froehling & Robertson, Richmond, Va.

Hochstadter Laboratories, New York.  
Wiley & Co., Inc., Baltimore, Md.

### CHEMICAL MACHINERY. (Used.)

Heineken, W. P., New York, N. Y.

### CHEMICAL PLANT EQUIPMENT.

Curtis Bay Copper & Iron Works, Inc., Baltimore, Md.

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Rust Engineering Co., Pittsburgh, Pa.

### Radial Brick.

Rust Engineering Co., Pittsburgh, Pa.

### Steel.

Petroleum Iron Wks. Co., Sharon, Pa.

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Draper, E. S., Charlotte, N. C.  
Ludlow Engrs., Winston-Salem, N. C.

### CLEANING POWDER.

India Alkali Works, Boston, Mass.

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Chicago Watchman's Clock Wks., Chicago.  
Eco Clock Co., Boston, Mass.  
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Kinney Mfg. Co., Boston, Mass.  
Medart Co., The, St. Louis, Mo.  
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Alabama Co., The, Birmingham, Ala.  
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Monro Warrior Coal & Coke Co., Birmingham.

Tenn. C. I. & R. Co., Birmingham.  
Yolande Coal & Coke Co., Birmingham.

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Columbus Conveyor Co., Columbus, O.  
Dow Co., Inc., The, Louisville, Ky.  
Halse Mfg. Co., Geo., New York, N. Y.  
Hayward Co., The, New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Lidgerwood Mfg. Co., New York, N. Y.  
Link-Belt Co., Philadelphia, Pa.  
Portable Mchry. Co., Passaic, N. J.  
Robins Conveying Belt Co., New York.  
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y.  
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### COAL TAR AND BY-PRODUCTS.

Barrett Co., New York, N. Y.  
Brier Hill Steel Co., Youngstown, O.

### COAL TIPPERS.

American Bridge Co., New York, N. Y.  
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### COKE.

Alabama Co., The, Birmingham, Ala.  
Brier Hill Steel Co., Youngstown, O.  
Hammond-Byrd Iron Co., Birmingham.  
Monro Warrior Coal & Coke Co., Birmingham.  
Tenn. C. I. & R. Co., Birmingham.  
Yolande Coal & Coke Co., Birmingham.

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Rust Engineering Co., Pittsburgh, Pa.

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Southern Steel Prod. Co., Richmond, Va.  
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American Steel & Wire Co., Chicago, Ill.  
Concrete Steel Co., New York, N. Y.  
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Robinson & Co., Dwight, F., New York.  
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Thayer Son & Co., S. B., Wilmington, Del.

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White Engr. Corp., The J. G., New York  
Widmer Engineering Co., St. Louis, Mo.

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McWilliams Co., Inc., Memphis, Tenn.

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Foundation Co., The, New York, N. Y.  
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Cornell-Young Co., Macon, Ga.  
Doullut & Williams Co., New Orleans.

Foundation Co., The, New York, N. Y.  
Fraser, Brace & Co., New York.  
General Engr. & Constr. Co., Rockford, Ill.

Long Co., M. A., Baltimore.  
Normory & Sons, M. F., Roanoke, Va.  
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Southeastern Constr. Co., Charlotte, N. C.  
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Tucker & Laxton, Charlotte, N. C.  
White Engr. Corp., The J. G., New York.

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Roach & Stannell Memphis, Tenn.

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Fraser, Brace & Co., New York.

Power Plants.  
Foundation Co., The, New York, N. Y.  
Fraser, Brace & Co., New York  
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Railroad.  
Bayley & Co., C. A. D., Atlanta, Ga.  
Cornell-Young Co., Macon, Ga.  
Doullut & Williams Co., New Orleans.

Foundation Co., The, New York, N. Y.  
Fraser, Brace & Co., New York.  
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Bayley & Co., C. A. D., Atlanta, Ga.  
Concrete Steel Bridge Co., Clarksburg, W.  
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Doullut & Williams Co., New Orleans.  
Foundation Co., The, New York, N. Y.  
Fraser, Brace & Co., New York.

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McLewitt-Fleming Co., Chattanooga, Tenn.  
Normory & Sons, M. F., Roanoke, Va.

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Roach & Stannell Memphis, Tenn.

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Amer. Cement Tile Mfg. Co., Pittsburgh.  
Kansas City Slate & Tile Roofing Co.,  
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Bayley & Co., C. A. D., Atlanta, Ga.  
Foundation Co., The, New York, N. Y.  
General Engr. & Constr. Co., Rockford, Ill.

Fraser, Brace & Co., New York.  
McCrory Co., J. B., Atlanta, Ga.  
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American Saw Mill Mchry. Co., Hascatt-  
town, N. J.  
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Beckerley & Trusler, Baltimore, Md.  
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Miles Contractors Eqt. Co., Chattanooga.  
Pipe & Contractors' Sup. Co., New York.

Service Equipment Co., Philadelphia.  
South Side Fyry & Mch. Wks., Charle-  
stown, W. Va.  
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Wilson & Co., E. H., Philadelphia, Pa.  
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Hainault Forge & Iron Co., Columbus O.  
Richmond Metal Prod. Co., Inc., Rich-  
mond, Va.

Roanoke Bridge & Iron Wks., Roanoke, Va.

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Hainault Forge & Iron Co., Columbus O.  
Charleston Industrial Corp., Nitro, W. Va.  
Dow Co., Inc., The, Louisville, Ky.

Hais Mfg. Co., Geo., New York, N. Y.  
Hainault Forge & Iron Co., Columbus O.  
Link-Belt Co., Philadelphia, Pa.

McLanahan-Stone Mach. Co., Hollidays-  
burg, Pa.  
Portable Mchry. Co., Passaic, N. J.

Robins Conveying Belt Co., New York.  
Shepard Electric Crane & Hoist Co.,  
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Taplin-Rice-Clerkin Co., Akron, O.  
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Hampton Roads Equip. Co., Norfolk, Va.

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dele, Ga.

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Shepard Electric Crane & Hoist Co., Mon-  
tour Falls, N. Y.

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Browning Co., Cleveland, Ohio.

Bucyrus Co., South Milwaukee, Wis.  
Byers Machine Company, Ravenna, O.  
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Hoisting Mchry. Co., New York, N. Y.  
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tour Falls, N. Y.

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Cresoted Materials Co., Inc., New Orleans.

Gulfport Cresoting Co., Gulfport, Miss.  
Pensacola Cresoting Co., Pensacola, Fla.

Savannah Cresoting Co., Inc., The, Port  
Wentworth, Savannah, Ga.  
Southern Wood Preserving Co., Atlanta.

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Cresoted Materials Co., Inc., New Orleans.

Eppinger & Russell Co., New York, N. Y.  
Gulfport Cresoting Co., Gulfport, Miss.

Pensacola Cresoting Co., Pensacola, Fla.  
Savannah Cresoting Co., Inc., The, Port  
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Austin-Western Road Mchry. Co., Chicago.  
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White, Gilbert C., Durham, N. C.  
Willis, W. N., Spartanburg, S. C.

**Public Service Properties.**

Billey Engineering & Management Corp., Chicago, Ill.  
Cooper & Co., Hugh L., New York.  
Ford, Bacon & Davis, Inc., Philadelphia.  
Parsons, Klapp, Brinckerhoff & Douglas, New York, N. Y.  
Robinson & Co., Dwight P., New York.  
Seaford Engineering Co., Philadelphia.  
Stone & Webster, Inc., Boston, Mass.  
Weller, Francis R., Washington, D. C.  
White Engr. Corp., The J. G., New York.

**Railroad.**

Clark & Krebs, Charleston, W. Va.  
Mees & Mees, Charlotte, N. C.  
Willis, W. N., Spartanburg, S. C.

**Refrigerating.**

Baker Ice Machine Co., Omaha, Neb.  
Burrows, E. A., Chicago, Ill.  
Hawley, Chas. B., Washington, D. C.  
Markel, F. E., Atlanta, Ga.  
Opbhus & Hill, Inc., New York.  
York Mfg. Co., York, Pa.

**Reinforced Concrete. (Bridges, Buildings, Etc.)**

Ayres & Miller, Memphis, Tenn.  
Camp & Associates, E. V., Atlanta, Ga.  
Carolina Eng. Co., Wilmington, N. C.  
Concrete Steel Bridge Co., Charleston, W. Va.  
Freeland, Roberts & Co., Nashville.  
Fuston, Walter J., Dallas, Tex.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hutton & Schreffer, Raleigh, N. C.

Long Co., M. A., Baltimore.  
Luten, Daniel B., Indianapolis, Ind.  
McDevitt-Fleming Co., Chattanooga, Tenn.  
Olsen, O., Jacksonville, Fla.  
Paysons, Klapp, Brinckerhoff & Douglas, New York.  
Robinson & Co., Dwight P., New York.  
Rust Engineering Co., Pittsburgh, Pa.  
Sanders & Sweeney, Anderson, S. C.  
Smith Co., The, Birmingham, Ala.  
Spiker & Lose, Atlanta, Ga.  
Steel, J. J., A., Knoxville, Tenn.  
Tucker & Laxton, Charlotte, N. C.  
Turner, C. A. F., Minneapolis, Minn.  
White Engr. Corp., The J. G., New York.  
Willis, W. N., Spartanburg, S. C.

**Roofing.**

Kansas City Slate & Tile Roofing Co., Kansas City, Mo.

**Sewerage and Water-Works.**

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Archer & Co., E. T., Kansas City, Mo.  
Arres & Miller, Memphis, Tenn.  
Black & Veatch, Kansas City, Mo.  
Camp & Associates, E. V., Atlanta, Ga.  
Carolina Eng. Co., Wilmington, N. C.  
Ford, Bacon & Davis, Inc., New York.  
Hills Co., George B., Jacksonville, Fla.  
Klyce, B. H., Nashville, Tenn.  
Ludlow Engineers, Winston-Salem, N. C.  
McCalla & Co., J. B., Knoxville, Tenn.  
Mees & Mees, Charlotte, N. C.  
Olson, O., Jacksonville, Fla.  
Paysons, Klapp, Brinckerhoff & Douglas, New York.  
Posey, James, Baltimore, Md.  
Sanders & Sweeney, Anderson, S. C.  
Smith Co., The, Birmingham, Ala.  
Tucker & Laxton, Charlotte, N. C.  
Wallace & Crenshaw, Knoxville, Tenn.  
White Engr. Corp., The J. G., New York.  
White, Gilbert C., Durham, N. C.  
Willis, W. N., Spartanburg, S. C.

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Ludlow Engineers, Winston-Salem, N. C.  
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Hills Co., George B., Jacksonville, Fla.  
Hutton & Schreffer, Raleigh, N. C.  
Ingalls Iron Works Co., Birmingham.  
Shearer, C. E., Memphis, Tenn.  
Spiker & Lose, Atlanta, Ga.  
Turner, C. A. F., Minneapolis, Minn.

**Textile Mills.**

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Main, Chas. T., Boston, Mass.  
Sanders & Sweeney, Anderson, S. C.  
Stirring & Co., J. E., Greenville, S. C.

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**Corliss.**

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Vilner Mfg. Co., Milwaukee, Wis.

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Domestic Engine & Pump Co., Shippenburg, Pa.  
Foss Gas Engine Co., Springfield, Mo.  
National Transit Pump & Mch. Co., Oil City, Pa.  
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National Hoisting Engine Co., Harrison, N. J.  
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Murray Iron Works, Burlington, Ia.

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Beaver Mfg. Co., Milwaukee, Wis.  
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Construction Machinery Co., Waterloo, Ia.  
Domestic Engine & Pump Co., Shippenburg, Pa.  
Foss Gas Engine Co., Springfield, Mo.  
National Transit Pump & Mch. Co., Oil City, Pa.  
Otto Engine Works, Philadelphia, Pa.

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Austin Machinery Corp., Chicago, Ill.  
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Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.

**Excavators.**

Cableway, Drapline.  
Bucyrus Co., South Milwaukee, Wis.  
Byers Machine Company, Ravenna, O.  
Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
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Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.

Erie City Iron Works, Erie, Pa.  
Erie Pump & Eng. Wks., Medina, N. Y.  
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Lefel & Co., James, Springfield, O.  
Lombard Iron Wks. & Sup. Co., Augusta, Mo.  
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Murray Iron Wks. Co., Burlington, Iowa.  
National Transit Pump & Mch. Co., Oil City, Pa.  
Bandle Machinery Co., Cincinnati, O.  
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**Steering.**

Mundy Hoisting Engine Co., J. S., Newark, N. J.

**Traction.**

Austin-Western Road Mch. Co., Chicago.

**Envelopes.**

Smith Co., Oscar T., Baltimore, Md.  
Young & Seiden Co., Baltimore, Md.

**Excavating Machinery.**

Austin Machinery Corp., Chicago, Ill.  
Bay City Dredge Works, Bay City, Mich.  
Bucyrus Co., South Milwaukee, Wis.  
Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.  
Hayward Co., The, New York, N. Y.  
Keynote Driller Co., Beaver Falls, Pa.  
Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.  
Northwestern Engr. Co., Chicago, Ill.  
Osagood Co., The, Marion, O.

**Excavators.**

Cableway, Drapline.  
Bucyrus Co., South Milwaukee, Wis.  
Byers Machine Company, Ravenna, O.  
Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.

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Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.  
Hayward Co., The, New York, N. Y.  
Keynote Driller Co., Beaver Falls, Pa.  
Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.

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Pittsburgh Steel Co., Pittsburgh, Pa.  
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Roberts Filter Mfg. Co., Darby, Pa.  
Seale & Sons Co., Wm. B., Pittsburgh.

**FINANCING.**

Electric Bond & Share Co., New York.  
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Annisson Refractories Co., Oxford, Ala.  
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Howard Refractories Co., Dorsey, Md.  
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**FIRE CLAY FLUE LININGS.**

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Moeschl-Edwards Corrug. Co., Cincinnati.  
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**Tin Clad.**

Lenderking, Philip H., Baltimore, Md.

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Hood Brick Co., B. Mifflin, Atlanta, Ga.  
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Grinnell Co., Providence, R. I.

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American Spiral Pipe Wks., Chicago, Ill.  
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**FLOOR PLATES AND STAIR TREADS.**

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**FLOUR AND GRIST-MILL MCHY. AND SUPPLIES.**

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### FORGEINGS.

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Charleston Dry Dock & Mch. Co., Charleston, S. C.  
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Granger & Co., Inc., Louisville, Ky.  
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Lunkenheimer Co., The, Cincinnati, O.

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Cummers & Son, F. D., Cleveland, O.

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### HOISTING MACHINERY.

Allen Engineering Co., Philadelphia, Pa.  
Dane Engine Co., Grand Haven, Mich.

Lidgerwood Mfg. Co., New York, N. Y.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.

National Hoisting Eng. Co., Harrison, N. J.  
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y.

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### HOISTS.

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Box & Co., Alfred, Inc., Phila., Pa.  
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Byers Machine Company, Ravenna, O.

Elect. Hoist & Derrick Co., Hog Island, Pa.  
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United Iron Works, Kansas City, Mo.

Byers Machine Company, Ravenna, O.

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Lidgerwood Mfg. Co., New York, N. Y.

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Starrett Co., L. S., Athol, Mass.

**TAX SPECIALISTS.**

Robertson, Furman & Murphy, New York.

**TELEPHONE SERVICE.**

American Telephone & Telegraph Co.

**TERRA-COTTA.** (Ornamental.)

Atlanta Terra-Cotta Co., Atlanta, Ga.

**THRESHERS.**

Cardwell Machine Co., Richmond, Va.

**TILE.**

Chattanooga Sewer Pipe Works, Chattanooga, Tenn.

Kingsport Brick Corp., Kingsport, Tenn.

Oonsee Br. & Tile Co., Millersville, Ga.

Floor, Wall, Mantel, Etc.

Amer. Enam. Brick & Tile Co., N. Y.

Head Brick Co. B. Miffin, Atlanta, Ga.

Oonsee Br. & Tile Co., Millersville, Ga.

Southern Mosaic Tile Co., Atlanta, Ga.

**Roof.**

Amer. Cement Tile Mfg. Co., Pittsburgh.

Segment Blocks.

Chattanooga Sewer Pipe Wks., Chattanooga, Tenn.

Structural.

Kingsport Brick Corp., Kingsport, Tenn.

Oonsee Br. & Tile Co., Millersville, Ga.

**TILE CEMENT.**

Amer. Cement Tile Mfg. Co., Pittsburgh.

**TILE SLABS.**

Amer. Cement Tile Mfg. Co., Pittsburgh.

Ludowici-Celadon Co., Chicago, Ill.

**TIMBERS.**

Grassland.

American Creosote Wks., New Orleans.

American Creosoting Co., Louisville, Ky.

**TIME RECORDERS.**

Chicago Watchman's Clock Wks., Chicago.

Eco Clock Co., Boston, Mass.

Newman Clock Co., New York, N. Y.

**TIN AND TERNE PLATES.**

Amer. Sheet & Tin Plate Co., Pittsburgh.

Bethlehem Steel Co., Bethlehem, Pa.

Taylor Co., N. & G., Phila., Pa.

Wheeling Steel Prod. Co., Wheeling, W. Va.

**TIN PLATE POLISHING MACHINERY.**

Anderson Fdry. & Mch. Co., Anderson, Ind.

**TIRES.**

Motor Truck.

Kelly-Springfield Tire Co., New York.

**TOBACCO MACHINERY.**

Cartwell Machine Co., Richmond, Va.

Ripley Foundry & Mch. Co., Ripley, O.

**TOOLS.**

Electric.

Clark Jr. Electric Co., Jas., Louisville, Ky.

Independent Pneumatic Tool Co., Chicago.

**Machinists.**

Pratt & Whitney Co., New York.

Western Tool & Mfg. Co., Springfield, O.

**Mechanical.**

Starrett Co., L. S., Athol, Mass.

**Pneumatic.**

Independent Pneumatic Tool Co., Chicago.

Ingersoll-Rand Co., New York, N. Y.

**TOOLHOLDERS.**

Western Tool & Mfg. Co., Springfield, O.

**TOPOGRAPHIC SURVEYING EQUIPMENT.**

Gurley, W. & L. E., Troy, N. Y.

**TOWERS.**

Electric Transmission.

American Bridge Co., New York, N. Y.

Blaw-Knox Co., Pittsburgh, Pa.

Ritter-Conley Co., Pittsburgh, Pa.

**Radio.**

Ritter-Conley Co., Pittsburgh, Pa.

**Steel and Wood.**

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Coke Mfg. Co., R. D. Newman, Ga.

Pittsburgh-Des Moines St. Co., Pittsburgh.

Walsh & Weidner Boiler Co., Chattanooga.

**TRACK SPIKES.**

Atlanta Bolt & Steel Prod. Co., Atlanta.

**TRACTORS.**

Gasoline.

J. T. Tractor Co., Cleveland, O.

**Industrial.**

Atlas Car & Mfg. Co., Cleveland, Ohio.

J. T. Tractor Co., Cleveland, O.

**TRAILERS.** (Industrial.)

Electric Wheel Co., Quincy, Ill.

Sharon Pressed Steel Co., Sharon, Pa.

**TRAMWAY.**

Overhead.

Richards-Wilcox Mfg. Co., St. Louis, Mo.

Wire Rope.

American Steel & Wire Co., Chicago.

Broderick & Bascom Rope Co., St. Louis.

Caldwell & Son Co., H. W., Chicago, Ill.

Leachon & Sons Rope Co., A., St. Louis.

**TRANSFORMERS.**

Crocker-Wheeler Co., Ampere, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse El. & Mfg. Co., E. Pitta.

**TRANSITS.**

Gurley, W. & L. E., Troy, N. Y.

**TRANSMISSION BEARINGS AND HANGERS.**

Standard Pressed Steel Co., Jankintown, Pa.

Wood's Sons Co., T. B., Chambersburg, Pa.

**TRENCH MACHINERY.**

Austin Mchry. Corp., Chicago, Ill.

Ruckeye Traction Ditcher Co., Findlay, O.

Erie Steam Shovel Co., (Ball Engine Co.), Erie, Pa.

**TRIM.** (Metal.)

Dahlstrom Metallic Door Co., Jamestown, N. Y.

**TROLLEYS.** (Overhead Tramway.)

New Jersey Fdy. & Mch. Co., New York.

Reading Chain & Block Corp., Reading, Pa.

**TRUCKS.**

Drykline.

Moore Dry Kiln Co., Jacksonville, Fla.

Electric for Shops, Mills, etc.

Elwell-Parker Elec. Co., Cleveland, O.

Industrial.

Atlas Car & Mfg. Co., Cleveland, Ohio.

Elwell-Parker Elec. Co., Cleveland, O.

Sharon Pressed Steel Co., Sharon, Pa.

Motor.

General Motors Truck Co., Pontiac, Mich.

Packard Motor Car Co., Detroit, Mich.

Platform, Freight, Mill, Factory, Etc.

Edwards Mfg. Co., The Cincinnati, O.

**TRUST COMPANIES.**

Maryland Trust Co., Baltimore, Md.

**TUBE WELL STRAINERS.**

Cook, A. D., Lawrenceburg, Ind.

**TUBING.**

Brass and Copper.

Chase Metal Works, Waterbury, Conn.

Mueller Metals Co., Port Huron, Mich.

**Metal.**

Boiler Tube Co. of America, Pittsburgh.

Goodfry Tire & Rubber Co., Akron, O.

Wheeling Steel Prod. Co., Wheeling, W. Va.

**Seamless Steel.**

National Tube Co., Pittsburgh, Pa.

**TURBINES.**

Hydraulic.

Davis Foundry & Mch. Wks., Rome, Ga.

Leffel & Co., James, Springfield, O.

Smith Co., S. Morgan, York, Pa.

**Steam.**

Atlas-Chalmers Mfg. Co., Milwaukee, Wis.

De Laval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse El. & Mfg. Co., E. Pittsburgh.

**TURNABLES.**

American Bridge Co., New York, N. Y.

Virginia Bridge & Iron Co., Roanoke, Va.

Automatic. (Portable for Trucks.)

Champion Engr. Co., The Kenton, O.

**TWINE.**

Plymouth Cordage Co., North Plymouth, Mass.

**UNIONS.**

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**UNLOADERS.**

Burch Plow Works Co., The Crestline, O.

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**VALVES.**

Bethlehem Shipbuilding Corp., Bethlehem.

Bourbon Copper & Brass Works Co., Cincinnati, O.

Columbia Iron Wks., Chattanooga, Tenn.

Crane Co., Chicago, Ill.

Frick Co., Warren, Pa.

Jenkins Bros., New York, N. Y.

Ludlow Valve Mfg. Co., Troy, N. Y.

Lunkenheimer Co., The Cincinnati, O.

Powell Co., The William, Cincinnati, O.

Ryerson & Son, Jos. T., St. Louis and New York.

Vogt Mch. Co., Inc., Henry, Louisville.

Westinghouse Traction Brake Co., Wilmerding, Pa.

Wood Drill Works, Paterson, N. J.

York Mfg. Co., York, Pa.

Acid-proof.

Lunkenheimer Co., The Cincinnati, O.

Gas Products.

Morgan Construction Co., Worcester, Mass.

Gas Reversing.

Morgan Construction Co., Worcester, Mass.

Gate.

Ludlow Valve Mfg. Co., Troy, N. Y.

**VARIABLE-SPEED TRANSMISSION.**

Reeves Pulley Co., Columbus, Ind.

**VARNISH.**

Berry Brothers Inc., Detroit, Mich.

Pittsburgh Plate Glass Co., Milwaukee, Wis.

**VENEER CUTTING MACHINES.**

Titus, E. E., Petersburg, Va.

**VENTILATING APPARATUS.**

Engineers' and Contractors.

Buckeye Blower Co., Columbus, O.

Buffalo Forge Co., Buffalo, N. Y.

**VENTILATORS.** (Roof.)

Edwards Mfg. Co., The Cincinnati, O.

Lenderking, Philip H., Baltimore, Md.

Robertson Co., H. H., Pittsburgh, Pa.

Schoedinger, F. O., Columbus, O.

**VICES.**

Western Tool & Mfg. Co., Springfield, O.

**VOLTMETERS.**

Weston Electrical Instr. Co., Newark, N. J.

**WAGON LOADERS.**

Austin Machinery Corp., Chicago, Ill.

Bonney Supply Co., Inc., Rochester, N. Y.

Hais Mfg. Co., Geo., New York, N. Y.

Link-Belt Co., Philadelphia, Pa.

Portable Mchry. Co., Passaic, N. J.

**WATCHMAN'S PORTABLE CLOCKS.**

Chicago Watchman's Clock Wks., Chicago.

Eco Clock Co., Boston, Mass.

Newman Clock Co., New York, N. Y.

**WATER LEVEL RECORDERS.**

Gurley, W. & L. E., Troy, N. Y.

**WATERPROOFING.** (For Brick, Concrete, Granite, etc.)

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Sonneborn Sons, Inc., L., New York.

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**WATER PURIFICATION.**

New York Continental Jewell Filtration Co., The Nutley, N. J.

Roberts Filter Mfg. Co., Darby, Pa.

Seafie & Sons Co., Wm. B., Pittsburgh.

**WATER-SOFTENING APPARATUS.**

(Filtrating.)

American Water Softener Co., Phila.

International Filter Co., Chicago, Ill.

New York Continental Jewell Filtration Co., The Nutley, N. J.

Seafie & Sons Co., Wm. B., Pittsburgh.

Wayne Tank & Pump Co., Ft. Wayne, Ind.

**WATER SUPPLY INSTALLATIONS.**

Layne & Bowler Co., Memphis, Tenn.

**WATER WELL SCREENS.**

McEvoy & Co., J. H., Houston, Texas.

**WATER-WORKS SUPPLIES AND APPLIANCES.**

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Bourbon Copper & Brass Works Co., Cincinnati, O.

Coldwell-Wilcox Co., Newburgh, N. Y.

Columbian Iron Works, Chattanooga, Tenn.

Cook, A. D., Lawrenceburg, Ind.

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Hamburg, Boiler Works, Hamburg, Berks County, Pa.

Michigan Pipe Co., Bay City, Mich.

Standard Wood Pipe Co., Williamsport, Pa.

U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.

Wood & Co., B. D., Philadelphia, Pa.

**WATTMETERS.**

Weston Electrical Instr. Co., Newark, N. J.

**WELDING.**

Blaw-Knox Co., Pittsburgh, Pa.

**WELDING APPARATUS.**

Electric Arc.

General Electric Co., Schenectady, N. Y.

Oxy-Acetylene.

Kentucky Oxygen-Hydrogen Co., Louisville, Ky.

**WELDING ROD.**

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**WELL CONTRACTORS.** (Oil Artesian, etc.)

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# GOODYEAR

# BRASS



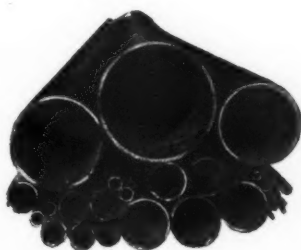
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August 8, 1922

The Grinnell Co.,  
Providence, R. I.

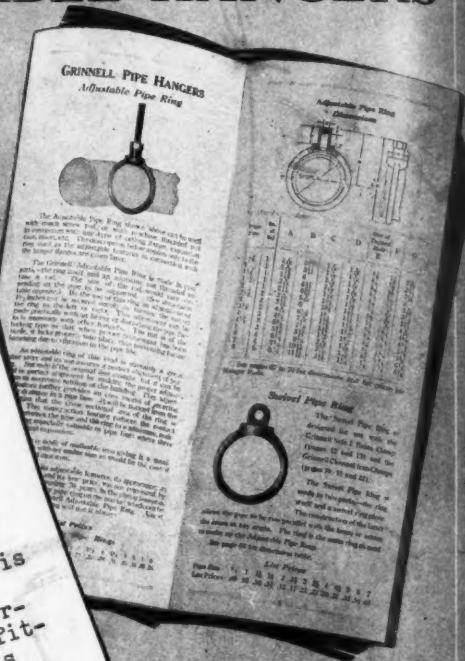
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